Aviation STORIES and Mechanics

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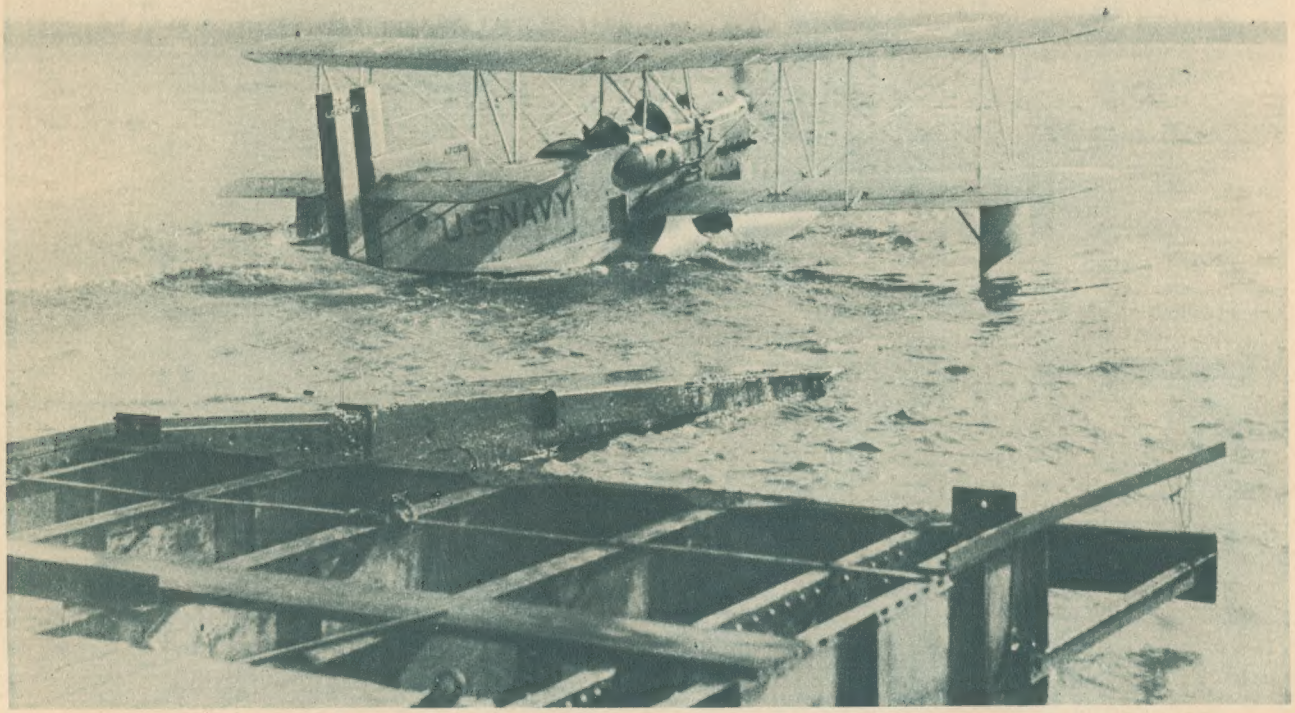

AVIATION STORIES and MECHANICS

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Photos by Acme

An Advertisement

by
The Editor

AN airplane manufacturer walked into our office. He was an old friend. And, as old friends will, he asked questions.

"Why," he asked, "are you editing this publication? And also, how come you do it like you do? What, if any, is your editorial policy? and what kind of an advertising medium have you?"

With all these questions, the conversation became decidedly lop-sided. However, our expurgated reply was somewhat as follows:

We edit this magazine because we're still young, foolish and imbued with a love for the third dimension. We "do it like we do" because we have a definite idea of what is needed and wanted by both of our subscribers. And our editorial policy is to give some 75,000 readers an informative, educational, inspirational and understandable publication devoted to aviation.

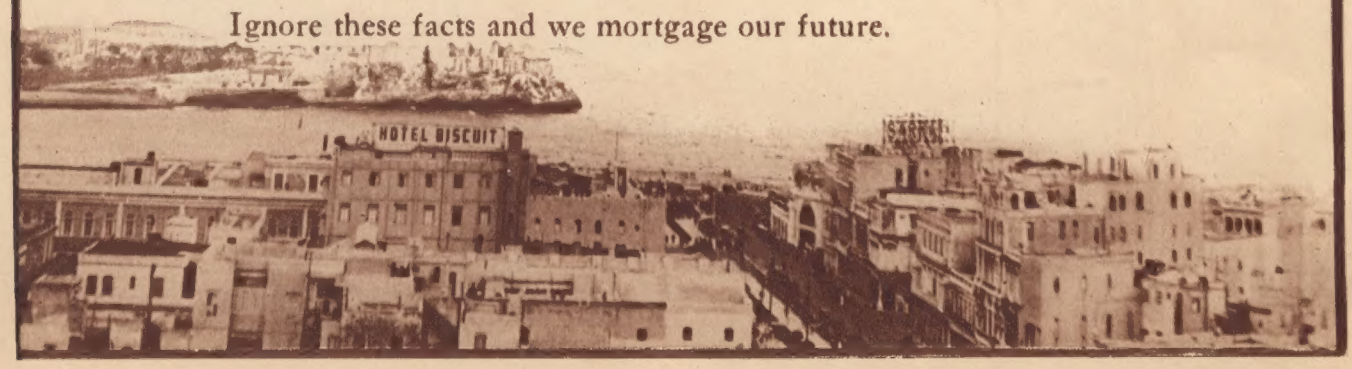
We reach not only the flier of today, but also the pilot and owner of tomorrow. We talk to *more* than the present market. We educate and cultivate the future buyer. The "kid" who thrills to the romance of flying—the youngster who, two, three or five years from now will keep your factories going—he is most important to the industry. And there are millions of him!

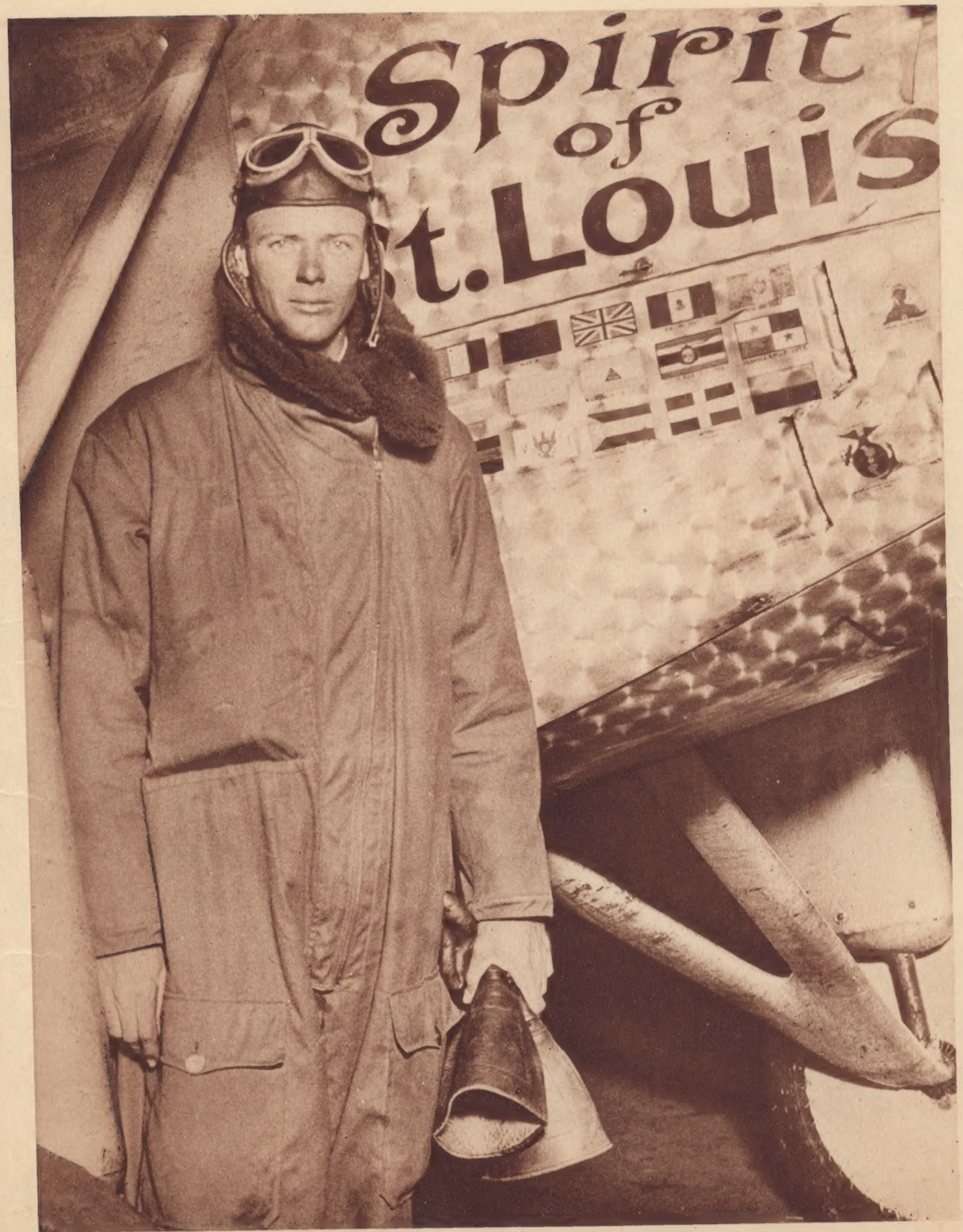
He is an avid reader on aviation subjects, this "kid." But a straight "trade journal" is rather technical for him. He wants information, education and inspiration—provided he can get them on his mental level. And this magazine tries to give him what he wants. Our daily mail indicates that we are doing it.

From this perspective, the advertiser may judge the value of this magazine as an advertising medium. For our part, we are sure of one thing!

The aviation "fan" of today will be the buyer of tomorrow. The kid who is reading will soon be buying. Aviation is a young man's game.

Ignore these facts and we mortgage our future.





Colonel Charles A. Lindbergh

Ten Little Kaydets

by

Lexa Dunn

(With apologies to the author of the original lines.)

TEN little Kaydets taking Six-O-Nine,
One flunked the Schneider test, and then there were nine;
Nine little Kaydets, one was always late
Missed ten successive bed checks, and then there were eight.

Eight little Kaydets flying toward heaven,
One tried a barrel roll, and then there were seven;
Seven little Kaydets taking twenty-hour checks,
One rode with Brookley, and then there were six.

Six little Kaydets try a fancy dive,
One missed a freight train, but—, and then there were five;
Five little Kaydets, you ought to hear 'em snore,
One tried to stop the noise, and then there were four.

Four little Kaydets start out for a spree,
One drank "Imported Stuff," and then there were three;
Three little Kaydets with nothin' much to do,
One got extended leave, and then there were two.

Two little Kaydets soloing in the sun,
One went in a tail spin, and then there was one;
One little Kaydet to graduate alone,
Got his "wings" at Kelly, and then there were none.

One ex-Kaydet with his little wife,
Lived all his days a happy little life;
One little couple dwelling by the shore,
Soon raised a family of ten Kaydets more.

One little, two little, three little, four little,
five little Flying Kaydets;
Six little, seven little, eight little, nine little,
ten little Kaydets more.

"And Now For the South Pole"

An Interview With Lieut. Noville Who Flew Over the North Pole and Atlantic Ocean With Byrd

By

HERBERT A. CERWIN

Lt. George C. Noville

"MISTER, I want to join the navy!"

A boy in short trousers stood in an enlisting booth in one of the main streets in New York City.

The enlisting officer looked down at the youngster with a smile. Was he joking, or did he really want to enlist in the navy? Finally he said: "How old are you?"

"Me? Oh, about 18, I think," replied the boy, who had read some place that a good lie may be pardoned if circumstances demanded. He was also hungry and he knew that the moment he became a member of Uncle Samuel's navy he would get something to eat — even if it was beans.

"I'm thinking you're lying, boy," said the enlisting officer.

The word "boy" made the prospective sailor's face scarlet. He was only 14 years old and at the age when anyone hates to be called "boy." He was ready to insult the officer, but his appetite prevented any further utterance. He waited a few seconds.

"But," the officer said at length, "here's a certificate. Get your folks to sign it and bring it back."

"Yes sir!" answered the boy. He saluted the officer, about faced and went down the street.

Cleveland, Ohio, where he had been a late resident with his parents, was a long way to send the certificate. He had already lied once. It wouldn't hurt to do it again. And anyhow if he sent the certificate back home his parents might object. Well, he'd take a walk around the corner and then maybe decide . . . .

"Yes sir! I've got their permission," declared the boy ten minutes later and handed over the certificate. "By the way, where's the commissary?"

And so the boy—now known to the world as the famous Lieutenant George C. Noville, who with Commander Byrd and two co-fliers flew over the north pole and last June crossed the Atlantic ocean, began his career as a common sailor in the United States navy. His first long pants was the blue serge of a navy uniform.

Some few weeks before enlisting in the navy George had left his home in Cleveland, where he was born, for several particular and specific reasons: he didn't like school — he hated teachers; he always quarreled with them and the lessons were invariably tedious.

George Noville has French and Irish blood running through his veins —a wicked combination. He was of an adventurous nature, and when he couldn't get along in school as a matter of form he quit. When his parents did not agree with his abrupt procedure, revolutionary movements in the Noville household made it imperative for George to run away. He went to New York.

A taste of salt water, a few daring experiences in China and George had changed his entire attitude about school and education. He had a great longing to study. The navy was then offering scholarships to ambitious sailors and like the late Julius Cæsar, George was full of ambition. He worked hard and soon had won a number of scholarships, allowing him to spend two years at a technical school and two years at Columbia University.

Commander Byrd

The roar of an airplane was first heard by George Noville in 1910. The long, large ship which flew over his head, over the clouds and into unknown space attracted him. It stirred his imagination. Four years later he was transferred to the aviation corps as a mechanic and instantly learned to maneuver a plane.

Noville met Commander Richard E. Byrd aboard a war vessel. The two talked aviation. As early as that time, 1916, Byrd had been thinking of a scientific exploration trip to the North Pole and visioned someday the crossing of the Atlantic ocean. Noville became enthused with interest and expressed a desire to accompany Byrd.

Came the declaration of war against the Imperial German government by the United States. All thought of exploration trips and scientific expeditions were forgotten. Noville plunged into the thickest part of the fighting as an American aviator.

In the middle of a battle he was shot through the neck. He managed, however, to make an attempt to land the airplane and the next thing he knew he was in a hospital. The horror he witnessed, the slaughter of human beings, caused an antipathy of war that he has never been able to overcome. And who can blame him, for the crash of the plane, and the wound that he had received from the enemy, resulted in his retirement from active service in the navy.

Months he spent in the hospital, and when he finally recovered, the Armistice had been signed. It took

several years for the country to settle down to its normal pace and again Byrd proposed his trip to the North Pole.

Good navy pilots were scarce. Noville was one of the best the government had produced. When, five years following the end of the war, he conferred with Commander Byrd; preparations were at once begun for the flight.

Just after midnight, May 9, 1926, Commander Byrd, Noville and other fliers took off for the North Pole after a dangerous and lurching start at Spitzbergen. They went over the North Pole and back to Spitzbergen, a distance of 1545 miles. They were the first to fly over the pole, Amundsen, Ellsworth and Noville following them in a dirigible.

The polar flight successfully completed, plans were made for a greater accomplishment—a scientific non-stop expedition from New York to Paris, crossing the Atlantic ocean. Work on the "America" commenced in January, 1927, and by June was finished.

Byrd and his crew would have probably been the first to fly to Paris had not a trial spin resulted in a crash in which the plane was badly damaged, although no one was seriously injured. The consequence was a long delay and when Lindbergh set out to Paris, Byrd was still testing the "America."

Because of bad weather, for some two weeks, the flight was postponed. Byrd, however, announced that regardless of weather conditions they would start on June 29. At 5:24 in the morning the motors of the plane were warmed up for half an hour, then suddenly the plane shot down the short incline. It flew to the west for the take-off, circled, then passed low over the field, headed toward the sun that was gilding the mist of dawn.

Before Byrd had taken his position in the plane, but after he had said goodby to his relatives and friends, he shook hands with several newspapermen. "Good-bye," he said, and then as an after-thought, "I don't generally say good-bye."

Seven hours out, the "America" ran into fog so deep that the crew could not see the wing tips. Only once during the entire flight did they become apprehensive. It was at this moment.

The drone of the engines caused one of the four to doze. But it was a short nap. All the three engines opened in one terrific roar. To an aviator, this noise means only one thing: they were taking a nose dive falling toward the sea. They lost 3500 feet in about 50 seconds. The giant plane had looped but now again it was under control.

Several minutes later Noville received a note from Balchen who was in the navigating cockpit: "Why the devil don't you get on your course. We are going to Paris, not to New York." The loop had turned the plane in a different direction. Instead of being headed for Paris, they had been flying back toward New York.

So bad was the fog getting that at 6:39 p. m., Noville at the radio sent out this message for Commander Byrd: "Dense fog covers all Newfoundland. Getting above it and have bad adverse winds. Impossible to navigate. Can hardly see wing tips. Running into another one now."

Previous to radioing this message to the world, Byrd had written a note to the crew: "Should we turn back?"

Byrd passed the note to Noville. He showed it to Bert Acosta. The roar of the engines made talking impossible and Acosta shrugged his shoulders. Noville understood and he wrote for an answer: "Just as far to go back as it is to Paris. You know where we want to go."

While approaching Europe, their compass went out of order. The fog prevented them from finding any

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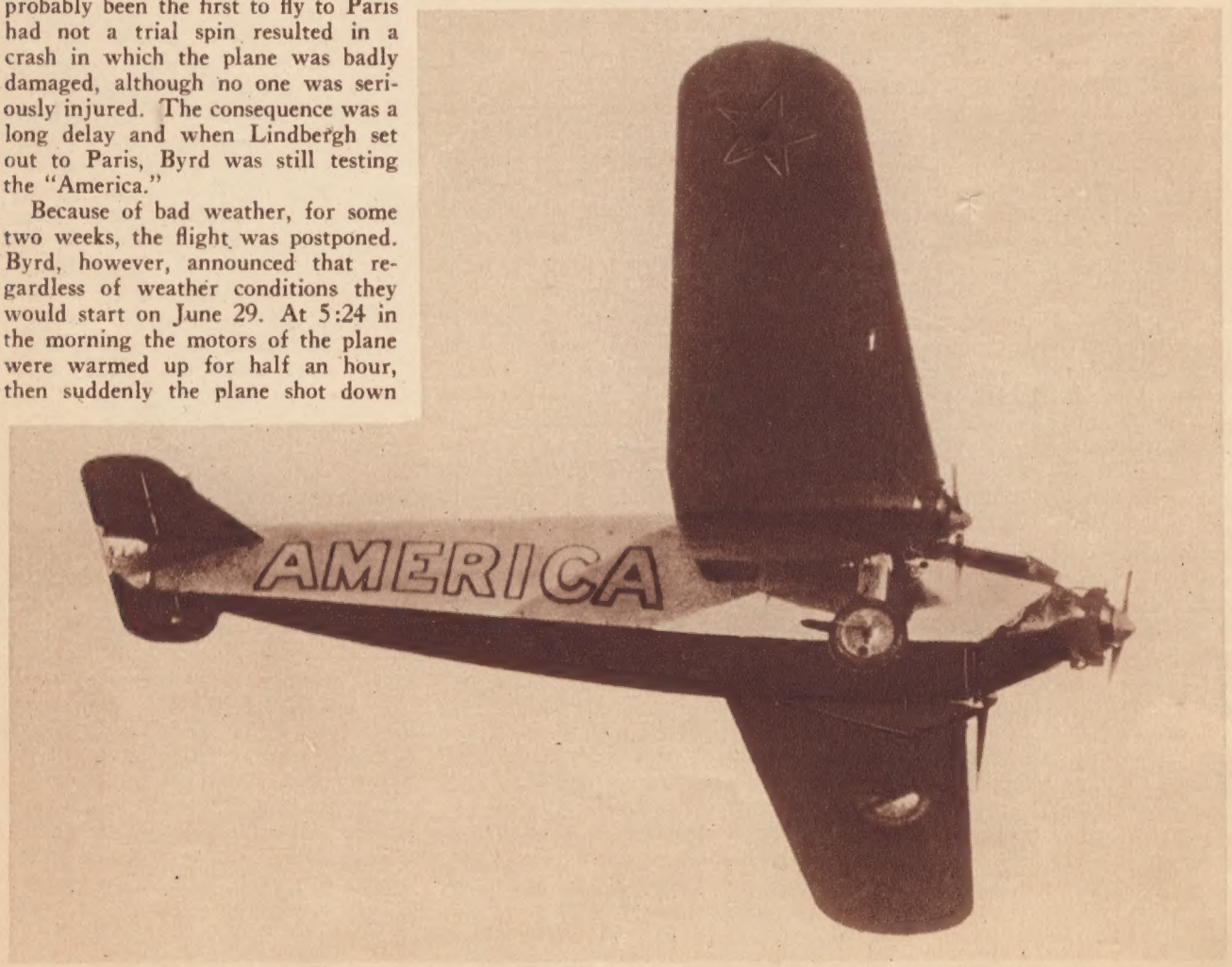
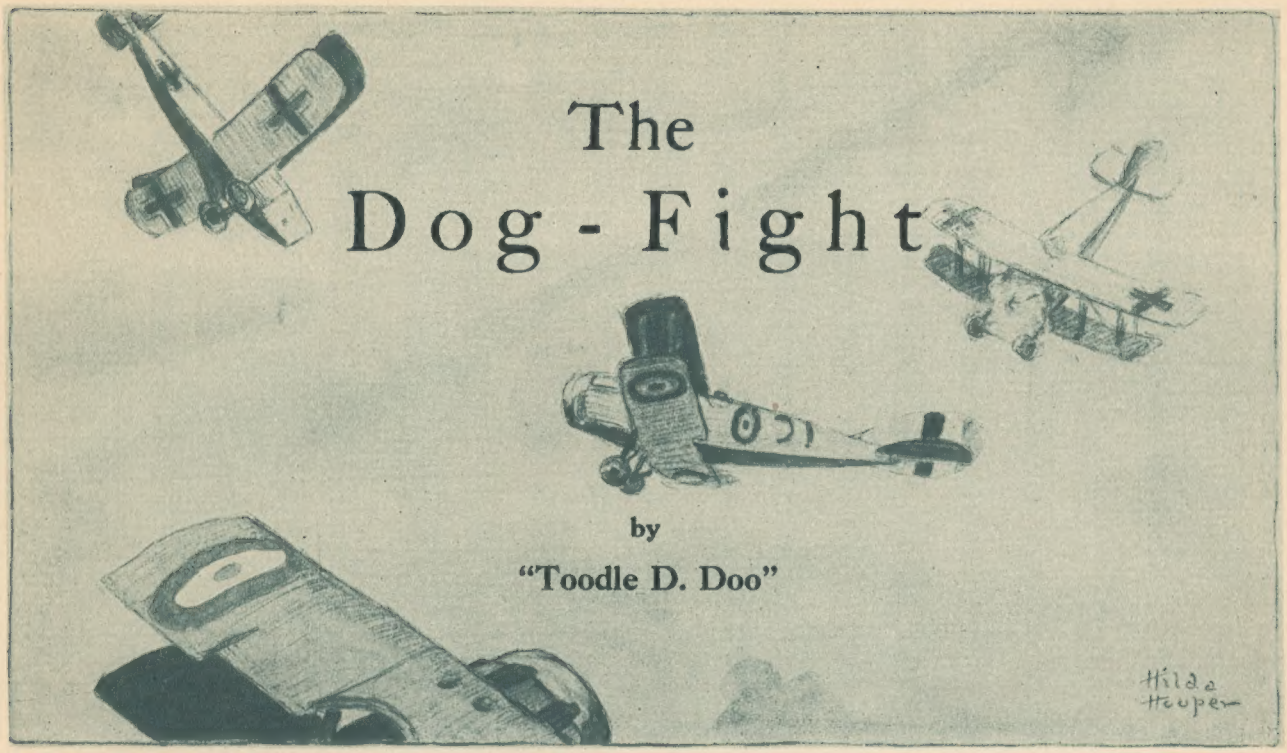


Commander Byrd's Trans-Atlantic Plane.



The Dog-Fight

by

"Toodle D. Doo"

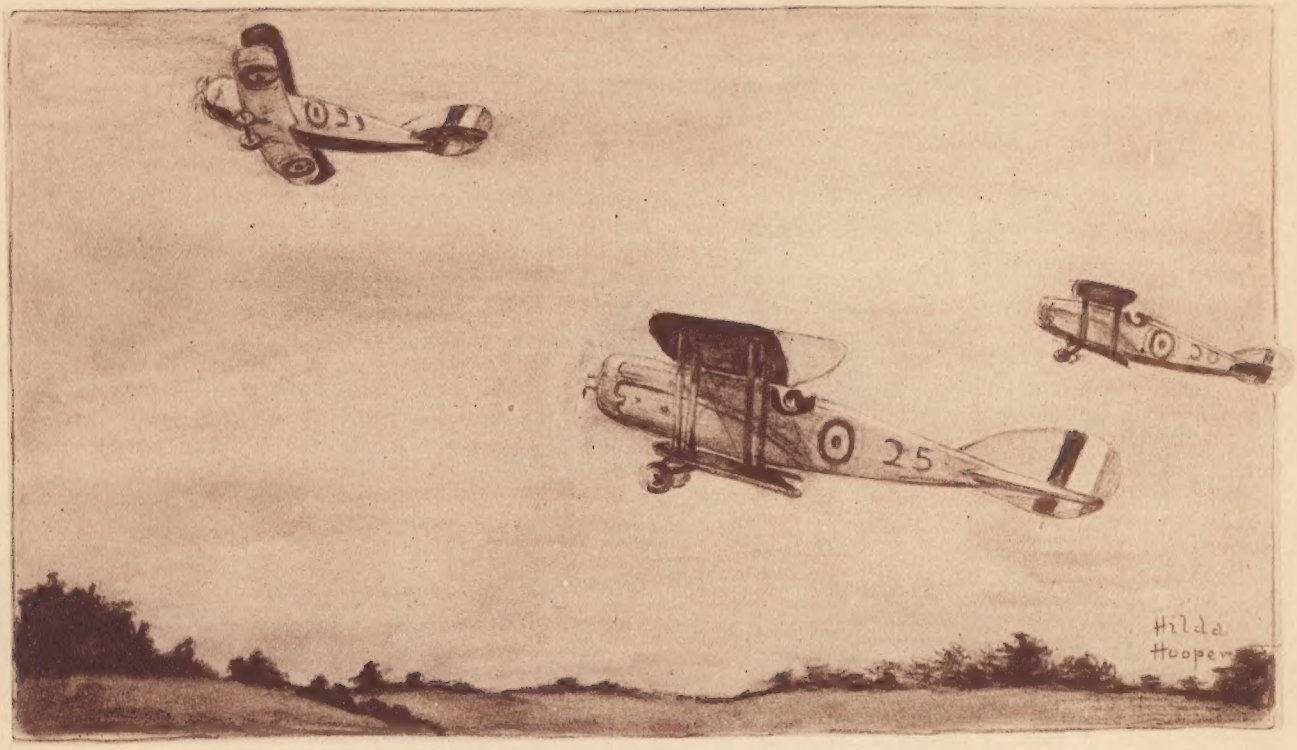
Here's one of the "tales old-timers tell." The author, who at present is a newspaper man, prefers to remain anonymous, but he knows what he writes about and has several air victories to his credit during the recent and much re-fought ruckus in Europe.

IN the latter part of September and early October of 1918, the Forty-ninth Aero Squadron of the Second Pursuit Group had been getting itself into daily encounters with the Hun. There was one of these mix-ups in particular ("dog fights," as they were known in the vernacular of the Air Service) that will always stick in the memories of the boys who took part in it. The scrap I refer to was the one that got the Squadron mentioned in General Army Orders during the Meuse-Argonne drive, and won for practically all the members of "B" Flight the Distinguished Service Cross. The censors even saw fit to let mention of this incident find its way into the Paris edition of The New York Herald.

The Meuse-Argonne offensive had already been going forward for a week, and our daily flying orders had not varied much in that time—mostly patrols over and beyond the German lines, with road straffing and occasional escort duty for bombers and regelage machines. So when the usual daily Squadron orders came through for "B" Flight on the morning of October 4th it was without any great thrill of anticipation or premonition of trouble that the boys watched their speedy little old Spads wheeled out of the hangars and the engines warmed up ready for the take-off. But that just goes to show you that you never can tell what Fate has up her sleeve for you—for those seven flyers, making up "B" Flight, starting off from Belrain Field in the early morning were to bring back before noon a record that covered themselves with glory and gave to them a new pride in the Forty-Ninth.

Jim Manning was patrol leader, and as good a flyer and leader as any outfit could want. He was from old Virginia and a peaceful enough chap when not seated behind a couple of Marlin machine guns, but a hell-uva scrapper and a dead shot when so perched. Only a week previous to this he had brought down single-handed a two-seater of the Heinies. And not a one of his men but would have followed him straight through to Berlin if he had seen fit to try to fly that far. The rest of the patrol was made up of Mac McMurry, Red Graham, Peyt Schenck, Jay McKay, Clair Kinney and Lew Plush. Mac had been one of the old French Ambulance crowd and was sporting the Croix de Guerre for work done for that bunch of adventurers. Red, previous to entering the Air Service had been a star quarterback on the University of Chicago Varsity football team. Scrappers they were, all seven of them, and fast letting old Fritz know, with the aid of the rest of the Squadron, that the Wolf Head Insignia on an American 'plane meant trouble.

By eight-thirty on the morning of this eventful day the usual early morning fog and mist had been burned away by the rising sun that greeted the whole Allied Front from over back of the Boche lines. The higher clouds were breaking up and drifting in a windless sky, the sun glimmering through in spots. In another five minutes the motors of "B" Flight were racing and the 'planes took off one after the other. Circling above the Belrain field the seven 'planes formed the usual V at the agreed height of seven hundred meters and started off over the Verdun-Bar le Duc road toward the lines. Gaining altitude all the way up to the front Jim led his formation over into Hunland at around fifteen hundred meters. This was about two hundred meters below the cloud banks, where they did not make too good a target of themselves for the German Anti-Aircraft and at the same



The planes took off one after the other

time was just far enough below the clouds to enable any Hun formations to be spotted before they could get the drop on Jim and his gang. Many a good man had been picked off just that way because his leader did not keep away from billowy clouds.

Even though "B" Flight kept somewhat under this cloud strata the Hun Archies peppered them with the usual good morning salvo. This was both a good and bad sign. Good, in that it indicated an absence of Boche formations in the immediate vicinity. Bad, in that it might just as well be a signal to some Hun flyers that here was a chance to pick off a few inexperienced American aviators before lunch time. But in the three dimensions of the air not a Heinie was visible, alone or in groups.

Swinging the well-formed V around at right angles, Jim headed due West to take a look along parallel to the front line trenches. Not long thereafter he indicated by wiggling his ailerons that he had sighted something that looked like the enemy. Over toward Doulcon and well back in German territory he had seen a formation of Fokkers in a group of three Vs. The Huns apparently were content to remain inside their lines ready to flop down on any of the Allied observation or regelage machines that were continually going over at all hours of the day.

The patrol of the Forty-ninth was flying at this time at about 1600 meters altitude and possibly three or four hundred meters above the Huns. Undoubtedly the Fokkers saw the seven single-seater Spads but they did not indicate it in any movement. Straight West and parallel to the lines they continued. No doubt their leader figured that seven Spads would think twice before attacking a group that outnumbered them more than two for one. However, they were mistaken in the bunch they were up against, nor did they know about a Flight Commander who knew his stuff.

Some ten minutes later our Spads had about caught up to the Fokkers and realized that they had stepped into a big order. It turned out that there were three flights of Huns, two Vs of five each and one of seven.

At 9:15 as reported by the boys on their return to Belrain, Jim flipped his ailerons again as an indication that he was ready to attack. Following Jim, Peyt, Jay, Lew and Clair shoved the joy sticks of their busses well forward and stuck the noses of the Spads into a vertical dive with the motors wide open. Red and Mac remained up above to act as protection in warding off any other Heinies that desired to enter a battle royal.

On the first dive Jim, Clair and Jay picked off a Hun apiece, for three broke from the formation and tumbled down into spins toward the ground. Although the five of them zoomed upwards the Huns were climbing too, and started their milling in a circle. Down swooped Red and Mac, unable to remain out of such a beautiful dog-fight that was in the making. By this time the others had come out of their zooms and dropped like hawks back into the center of the melee. Tracer and incendiary bullets were making wonderful smoky patterns all around the surrounding ether.

Manning and McKay were both after Huns who had darted out from the fight as if running for home, and one of the Fokkers was brought down. Both returned to the fight after shaking Huns off their tails. The dog-fight now became a wild acrobatic scramble with every man taking a shot when a Fokker or Maltese Cross flashed in front of his ring or telescopic sights. Two of the enemy 'planes were seen to tangle wings and burst into fragments of wood and cloth. One or two more attempted to dive down and head for home; these usually were hard-pressed Huns with Spads on their tails. None of the boys dared to dart out of the fight for long to chase these Fokkers for altitude was being continually lost each minute and it would be rather tough to get back to Belrain if they

got too low. And besides there was a rule to the effect that you were never to leave a fight alone unless wounded or with a bad engine.

Peyt Schenck was having a stunting duel with a green Fokker. Neither seemed to be getting the better of the argument until Peyt pulled a nifty split-ass turn and was all set to loose a burst into friend Boche when he spotted one of his comrades in trouble. A Hun was hot after a Spad that had become separated a little and appeared to be ready to give the *coup de grace* to him. Peyt broke off from an easy victory and streaked to his comrade's rescue. With the wind whistling through the wires of his Spad he swooped down on the Fokker tail and sent a long burst of lead into the pilot's seat. He saw his adversary's head disappear into the cockpit and the plane turn over on its back and break into flames. Back he turned into the fight followed by his rescued pal.

Meanwhile the fighting had been getting lower and lower and moving above the towns of Brieulles and Romagne. No one was positive just which Fokkers were going down out of control and which were feigning being hit and hoping to get away to fight again the next day. Only those burning or seen to burn when they hit the ground were put down as sure things.

Clair Kinney had done his share of the good work and was whirling around after another Hun when he was caught unexpectedly by a Fokker on his tail. He flopped over onto his back and came out into a steep dive and then fell off into a Vrille. He never did quite get out of this tail spin. His Spad was seen to crash and soon burn. During the fight no one knew positively just who it was that had gone down.

All in all eleven Boche 'planes were seen to go down out of the fight, five in flames, two in a collision, and five flopping about helplessly. Puffs of smoke were seen to rise from the ground where some of these latter five hit or landed, but no one had time to watch a plane spin all the way to the earth. Their hands and eyes were well taken up in keeping out of the way of Fokkers and shooting bursts of machine gun bullets at sundry enemy planes.

Plush was forced out of the fight with his oil tank riddled with Spandau bullets and a couple of holes in his fur-lined Teddy. He left the scrap and headed for the lines with a fast failing motor with Red accompanying him for protection. He came down in a shell torn field just inside our lines and hitched his way back to our quarters on the Army trucks coming back for supplies. Red continued back to the field after seeing Lew climb out of his 'plane and wave. The other four came slowly in well shot up. Not a 'plane had escaped without a trace of having been in one grand fight, bullet holes were located in every conceivable part of the Spads but none hit a vital point.

Reports were made out by "B" Flight in the Operations' Tent and confirmations requested on eleven enemy aircraft. Also Army Headquarters were asked to obtain information as to whether Lieutenant Kinney was a prisoner. Confirmations at this stage of the war were not easy to obtain, especially on fights taking place well inside the enemy lines. Back in the old Toul sector where everything was quiet for weeks on end and Divisions were not being relieved or shot to pieces so often it was not difficult to locate three men in the trenches or near the front who had seen an air combat. During the Meuse-Argonne offensive things had changed. Too much activity was going on and advances made it necessary to get up to the front immediately if confirmations were ever expected to be obtained. Nevertheless

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Reports were made out in the operation tent

New Machine Tests Fitness of Prospective Aviators

Profiting by the experience of the Army Air Corps, United States Naval aviation authorities plan more drastic tests of the fitness of prospective flyers. The photo shows three officials watching the operation of a complex co-ordinator, which measures the ability of a flying candidate to co-ordinate the elements of a problem and the length of time required to do it. Left to right: Lieut. George C. Haverle, Maj. Francis H. Poole of Brooks Field, and Commander John R. Poppen.

(Above) Photo shows the first German plane flying under the German flag and with a German crew passing the S. S. Columbus of the North German Lloyd Line in New York harbor. It is a Luft-Hansa Junkers F-13, all metal plane with a 320 H.P. water-cooled motor, used as auxiliary equipment to the steamship.

(Right) Lucile Wilson and Robert Hughes, vaudeville stars of New York City, were married in the air over the municipal flying field at Philadelphia. Rev. John Bieri officiated at the "altar" while Bob Hewitt (right) piloted the plane.

The Life of a Parachute Jumper

by

Mark M. Campbell

In the last issue, Mr. Campbell told of his early barnstorming experiences and how, instead of continuing his career as a pilot, he acquired a reputation as "Dare-Devil Campbell" — king of stunt artists for the movies. This month he tells how he graduated from "wing-walking" to parachute jumping. Mr. Campbell is not writing a "success story" for the exemplification of the young.

II.

NOW, L. L. Irwin, founder of the Irving Airchute Company, of Buffalo, was an old buddy of mine. We had gone through a lot of adventurous experiences together. So I wrote Irwin, told him I needed a 'chute in my business and asked him if he could supply me with one. He replied that government orders were keeping him pretty busy, but he would ship me an Irving 'chute as soon as possible.

About this time my welcome began to wear off around the flying fields—the owners of which frankly told me they didn't want me killed on the premises as it would hurt their business. Therefore, with due regard for the commercial success of the airdrome owners, I went out on the road stunting for J. A. Sloan of Chicago, covering a circuit of the fairs in Canada. Traveling east, I finally hit Buffalo where I got my Irving parachute. By this time, I had acquired a reputation as a professional stunt artist. I had lost all recognition as a good mechanic and pilot and couldn't get a job in either of these capacities. There was just one thing to do and I did it. I continued stunting.

My first jump after receipt of the new parachute was made at Indianapolis from a Stinson Greyhound piloted by Jack Stinson. It was during the annual fair and the jump was made from an altitude of only 175 feet—a record for low jumping at that time. Low jumps, within easy sight of the fair crowds were, of course, highly amusing to the spectators. If the 'chute failed to open, it would simply make the spectacle more interesting! At any rate, with the success of my first low jump, I told Mr. Sloan to sign contracts with the fair officials whereby I was to leave the plane and land within easy sight of the entire grandstand. This procedure with its attendant risks was naturally more profitable for us. Practically all of the grandstands in those days were built for horse racing and this meant that I had to leave the plane at less than 300 feet over the back stretch—on half mile tracks. However, this did not bother me nearly as much as it did the fair committees, who usually demanded that I jump from a greater height or forfeit my contract.

I remember one jump made at Topeka, Kansas, from a plane piloted by Harry Buff. I left the ship at something less than 500 feet and, when I got over the center of the track, I pulled the release cords so when the 'chute opened I was diving straight for the judges' stand. The place was crowded and I was afraid the spectators would tear my 'chute to pieces, so I slid over the grandstand about ten feet from the roof and landed on a tent. Needless to say, the crowd thought they got their money's worth.

On going back to the coast, I found the winter was going to be a busy one for me. I made one or two free jumps at every field within thirty miles of Los Angeles, so the pilots could see the 'chute in action—for at that time parachute jumping was still in its infancy. I wanted to demonstrate the great value of the parachute as a safety device and, for that reason, eliminated most of the low jumping and other stunt features. But about the only comment made by the pilots was "sometime that thing won't open, and then there'll be slow music."

That winter I made two more pictures for Marshall Neilan. In one of these films, my job was to

(Left) The author, holding the Irving 'chute, showing ring and pins that open it. This particular chute made over 200 jumps without any repairs. It is the same type as is used in pursuit planes.

(Below) At the top of a fifty-foot aerial ladder, with E. C. Robinson piloting the ship.

make a 'chute jump into the ocean about four miles from land. The drop was to be made from a blimp piloted by Carl Wallam, an old acquaintance of mine from Akron, Ohio. In order to get a good hill to mount the camera on, we had to go to Catalina Island. We took off from the golf course on the Island and sailed out over the bay to a point about three miles from St. Catherine's hotel. Looking down at the crystal clear water beneath us, I noticed a school of fish. They were large fish about twelve or fifteen feet long. I didn't know what kind they were, but I remember hoping they were well fed and friendly.

Just before receiving the signal from shore, I asked Wally for his knife to cut the parachute rope as, on this particular jump I was using a balloon 'chute for the first time. I was just a bit nervous too—for this was my first over water jump. The signal came from shore, I went overboard and, when I hit the water, went under for ten or fifteen feet. Coming to the surface, I became tangled up in the parachute ropes and had to swim with one hand while I cut myself loose with the other. Luckily the water was calm or that would have been my last jump. As it was, the rescue launch got there none too soon.

The next day I made another jump over the same spot. This time I decided to try an experiment that, if successful, would eliminate any danger of becoming tangled in the parachute while in the water. Leaving the Blimp, I had untied the knot in the 'chute rope and held the ends together with my hands. As I touched the water and sank below the surface, I released the parachute. It drifted past me falling to the water about twenty feet away from where I went down. When I came to the surface, I swam over, picked up the 'chute and waited for the rescue launch to arrive. In this way I avoided the fate of many a man who failed to get clear of the 'chute on a water jump.

A few days later I made another jump from the Blimp over Arcadia California Balloon School. The camera was in a kite balloon at about 1,500 feet while we were at 3,500 feet in the Blimp. Carl Wallam and "Bud" Campbell were with me in the Blimp while Dave Kessen operated the camera from the kite balloon. At a given signal from Kessen, I was supposed to jump from the Blimp and pass as close to the kite balloon as possible. This, of course, necessitated steering the parachute flight on the way down. For this reason I did not use the balloon 'chute, but decided on the Irving Airchute.

Everything went according to schedule up to the time I hopped off from the Blimp. Then several things went wrong. In the first place I pulled the release ring when I started to leave and as I did, Wallam shut the throttle. Instead of making a clean jump, I fell through the parachute. With nothing to check my descent I dropped like a bullet—fighting desperately to straighten out the 'chute. Dave Kessen said I went past the camera so fast he never got a shot. By the time I got the 'chute untangled and open, I was only about 200 feet from the ground and when I finally landed and picked myself up, the Army ambulance "Hungry Lizzie" was by my side. Before I had a chance to congratulate myself on arriving in one piece, Major Harold Gieger, whom I knew very well, pulled up in a motorcycle side-car. He was very plainly disturbed and ordered me off the field saying he did not want me killed on

any field he was in charge of. Very plainly, the Major was more scared than I was.

I did not mind being ordered from the field as I had had this happen before. But, when the Major called my parachute "a flimsy bunch of silk" and other uncomplimentary things, I got mad and talked back. I told him my 'chute was a darn sight better than any he ever wore and that if he stayed in the service long enough, the same kind of a parachute would some day save his neck. It happened that in the two years following, Major Geiger twice owed his life to the same type of parachute that I wore when I so unceremoniously landed on his field. On both these occasions Major Geiger was in an aerial collision, but landed safely with his 'chute. He was unfortunately killed at a later date in a crash that I never did learn the details of.

I have found a very prevalent impression in the public mind that balloons and dirigibles are veritable death traps which are likely to blow up at any moment. It is true the envelopes are filled with a highly inflammable gas and for this reason every precaution should be taken to guard against fire. Yet on numerous occasions I have been in a Blimp for two or three hour trips—and the entire crew smoking all the time! Had the craft exploded, the public would have read the horrible details of "another aerial accident" but no one would have know that carelessness was the cause.

It may seem incongruous for one in my line of work to speak of being careful. And yet I have been careful. It is true that I have been called down by managers of flying fields, asked to stay on the ground while near them and even asked to stay away from some of them permanently. Nevertheless, I have been careful—of the safety of others. Never have I myself or never have I allowed anyone connected with me to fly low over crowds, dive at spectators, stunt over crowds, or fly in any way where there was a possible chance of injuring onlookers. I have even threatened to cancel my contract with fairs which permitted this sort of flying.

I remember one occasion while flying for J. A. Sloan in Chicago, he wanted me to change from a racing automobile to an airplane on a race track. I went to Indianapolis to try out this stunt—rehearsing the exhibition on an empty track with no spectators present. When I returned to Chicago, I told Mr. Sloan I would not undertake the job as I considered it too dangerous to crowds because of cross winds. Another flyer undertook the stunt in Milwaukee and the result was just as I predicted. The plane and automobile were wrecked and fourteen pleasure seekers were injured.

Flying from the roof of an office building, burning an airplane in the air, fighting another man on the wings of a plane at 3500 feet, being knocked into space and falling three quarters of a mile before the 'chute opened! These are some of the experiences Mr. Campbell relates in next month's issue.

This pet African lion was probably the first one to take an airplane ride back in 1919. Leo's present residence is now the Salt Lake City zoo.

Real Hotel Service

PHILADELPHIA—In case a guest of the Ben Franklin Hotel is in a hurry to get anywhere, they only have to notify the management, who has planes under charter. The guest is taken to the Philadelphia Municipal airport in a taxi, then transferred to the plane, and then the take-off for their destination.

Winter Maneuvers of the Army Air Corps

Eleven Army pursuit planes from Selfridge Field, Mich., lined up along the bank of the frozen St. Mary's River, Sault Ste. Marie, which is used as a landing field for the planes during the winter maneuvers. The planes are equipped with skiis.

James C. Angel, former pursuit instructor for the British Army, Italian Army, the North Chinese, and the Bolivian Army, and originator of the Mexican airmail, plans to take off from Fresno, California, with Presho Stephenson, Vice-President of the Beacon Airways, Inc., as co-pilot for a 25,000 mile tour of Mexico and South America.

A Sweet Smashup

By

MONT HURST

"SPEED" SULLIVAN was mad. He was mad clean through, too. And when Speed got mad he was awfully hard to get along with. It all happened because Jess Jackson, advance agent of the "Pacific Air Circus" had booked Speed to fly at a county fair in Arizona. This booking was to be the termination of Speed's contract with the Air Circus, but he was mad just the same. It seemed that Jess gave Speed the tough bookings. The other pilots got the sweet pickings and Speed got the tough ones. The result was always a rotten plowed field to take off from and hard-boiled county fair promoters who wanted a big cut in Speed's private passenger-carrying business.

Speed really wanted to stay in Los Angeles for the winter and rebuild his old Jenny. He knew where he could trade his Ox-5 in on a new Whirlwind and he could re-build the plane himself. Speed was a mighty fine mechanic and also knew lots about woodworking. He was going to re-model the old Jenny and build her into a smaller ship. He wanted more speed and was going to clip her wings off, shorten her fuselage, and change the landing gear. He was also going to re-cover and re-brace the wings. The cockpit needed changing, too. He had his plans all fixed and intended to build himself a fine little ship out of the body of the old Jenny.

The old ship had cracked many times and Speed knew that about one more date in a rough field would finish her and he couldn't afford to crack her up. He needed all of the good parts she had and more besides, and parts were getting high.

"Heck!" he exclaimed to Ben Johnson, pilot of a trim little stunt plane. "It's funny to me that Jess always hands me the tough ones! I only hope that I can make this date in Arizona without smashing anything. I've got to spend my roll on that motor and I need all of her parts. The only good thing about that date is that it ends my contract with this outfit!"

"Oh, cheer up — your contact is weak!" replied Ben, who always got the fat dates that paid big money. Those were the ones that Speed yearned for and intended to go after when he had rebuilt his old Jenny.

Speed arrived in Gila City amid a sandstorm. He landed in the "fair grounds" and found them far from fair! Sand had been wafted on them until he almost buried her nose in the ground.

Speed conferred with the Fair committee and found that they wanted loops, tailspins, and every other stunt under the sun—all for the one price of three hundred dollars for the three days! After a hot argument he finally got out of it with no stunts save the looping. The old bus just wouldn't stand the strain of stunt flying and Speed wanted to save her if possible. He couldn't afford a smashup. That's all there was to it.

As he had finished his first day's program he began carrying passengers at five dollars a head. He carried thirty and thought that he was doing fine. Among them was a mighty pretty young girl who rode, twice with him. She was very enthusiastic and wanted him to do a tailspin with her. He wouldn't do it. She nagged at him and finally the crowd around the ship got to laughing at his discomfiture. This girl certainly did know how to "pour it on" Speed and he took it.

"You are a fine airman!" she concluded. "I could get one of the waddies from my dad's ranch and he could do more stunts on a horse than you can with that plane! You can't fool me. I went to Europe last summer and rode from Paris to London in a big airplane and then a Frenchman at Issy did stunts with me. You

"It's funny to me that Jesse always hands me the tough ones"

He was in bed. His head was bandaged and he couldn't raise one arm.

think you are *some* flyer, don't you? You need nerve!"

"Maybe you can lend me some of yours!" replied Speed, as he dashed into his tent hangar. This girl certainly did get his goat, and right before a crowd, too. He could hear them laughing outside.

About that time a man stepped into the tent. He had on a big wide brimmed hat and had all of the earmarks of a wealthy ranchman. He just walked right in without making his presence known.

"Say, young fellow," said the man, "Jim Callahan is my name. If you've got nerve and want to make some money I have a pretty good proposition for you."

Speed looked up. Another rancher wanting to ride and do a few loops maybe. Well—Speed wasn't interested and the sooner he left this part of the country the better he would like it. It didn't take Speed long to set the rancher down.

"I'm not interested in any proposition," replied Speed, as he went to the old Jenny and began taking her spark plugs out preparatory to cleaning them. They had been giving him trouble lately.

"Well—you ain't heard what I've got—now listen," the rancher began.

"Don't want to hear it," replied Speed. "My ship won't stand much stunt stuff. I'm taking all the care I can of it as I am going to need all of it when I get back to Los Angeles. Sorry, but I'm busy!"

"All right—all right—but I sure have got a mighty fine proposition—but—suit yourself," said the rancher as he strode out of the tent. Speed turned to the motor with a mutter of "Huh!" and set to work in earnest.

He finally fulfilled his date and on the fourth day he was thanking the God of Luck that he didn't crack in that rough field. Bad air currents infested that area, too, and the old carburetor was out of adjustment. Speed was glad when he had shipped the tent hangar and packed his suitcase. He checked out of the hotel and went to the plane. A boy helped him start the motor. Speed took off, bumping over the ruts and praying that he would get in the air safely. Once up there, he would be sitting pretty. He did take the air without much trouble and turned her nose around towards Los Angeles and his home hangar. A smile of contentment was on his face. The old motor was hitting it off as well as could be expected and the old ship fairly shimmied as she plunged into the low hanging clouds and zoomed westward.

He had gone only about fifteen miles when she started swinging to the left. Speed pulled her over and then got mad. He started thinking of that rotten date he had just filled. He pulled her too far. Then with an enraged yank he almost broke the stick as he pulled her back. The old bus shimmied and then something snapped. He didn't hear it, but he knew that it had happened. The rudder controls had snapped! He was only about two thousand feet up and looked out. There was a great big fine Spanish style ranchhouse below him. He regretted that he had no parachute. He didn't have time to do anything but try to pull her out of it by instinct. But she plunged down, nose first. Speed saw a vision of a fast-disappearing new plane. Gone were his hopes and plans for a new ship. He saw a big coral below him and horses flying away from the falling plane.

He heard an explosion and felt that somebody had hit him with a sledge hammer. Then he thought that a propeller had cracked him over the head. He knew no more.

When Speed opened his eyes he was staring up into the face of the girl who had taunted him at the Fair Grounds. He was in bed. His head was bandaged and he couldn't raise one arm. Both legs were bandaged. The girl smiled at him.

"Well, old flying maverick—you and your flying folding-bed have crashed in our coral! You are okay except for umsteen cuts and bruises. Your old plane is a pile of junk. But you escaped by luck," she said, as she bathed his throbbing forehead.

He finally managed to speak. "So —so——," he almost sobbed, "my old Jenny is kindling? Well—I guess I'll make other plans—cracked her did I? I always have nice luck —NOT!"

The girl smiled at him. He looked straight into her face. He found that she was more beautiful than he thought. He had not noticed her beauty much before. She had soft white skin and the touch of her hands was like a shock from a live wire. She had the prettiest blue eyes he had ever looked at.

He closed his eyes. Now, he thought she would pour it on.

"Here comes dad," she said, as a big man came into the room.

Speed looked up. It was the big rancher who had come into the tent with some kind of a proposition. Speed just turned his aching head and closed his eyes.

"Well, how goes it, old flyin' waddie?" was the man's greeting.

"All right," Speed replied, "and I'll be getting out of here tomorrow."

"Oh no you won't," said the girl.

"Best you should stay here a few days. Now, that I've got you in my house, I'll tell you what that proposition is," said the rancher.

"Shoot," said Speed, as he resigned himself to some crazy scheme.

"Son," said the rancher," I've made more money than I know what to do with. We get everything from a radio to a home movie-making outfit. Nobody here but Eve, that's my daughter, and me. Oh, we got cowboys too. But we are all after enjoyin' life. Well, after Eve come back from Europe she got the air fever. Me—I took some rides over at Los Angeles last month. Well—to make a long tale wind up quick, I done bought two airplanes. Got one in Wichita, Kansas, and t'other in Los Angeles. Brand new babies too! One with a swell French motor and t'other with a Whirlwind. Both are speeders too. One is got two wings and one has got one wing. Both can make over a hundred an' twenty-five an hour! I been trying to hire me a "chuffer" for a month but can't get nobody to come live out here.

"Watcha say to hirin' out to me? I'll give you seventy-five dollars a week and your room an' board. How does that strike you?"

Speed almost jumped out of bed. Two speed planes! Gee, how he could give the boys in Los Angeles a thrill when he flew there in one of them. But—there was a flapper of a girl to taunt him!

"Well—," Speed began. He was interrupted.

"He said YES, pop!" exclaimed the girl. She almost hypnotized Speed as she leaned over him and her face came pretty close to his." Didn't you—honey?"

What could a guy do?

"I'll take your proposition," said Speed.

The old man left the room joyously. Eve sat down and leaned over to Speed. He was shaking all over. He was in love but didn't know it as he had been unsusceptible to feminine charms before this. But, there had never been another like Eve.

"Maybe you'll like it and stay here —always?" she said as she planted a kiss on his bruised lips.

"ALWAYS!" said Speed as he put a bandaged arm around her. It had been one sweet smashup for him that day.

Taking Off From Road

GARDEN CITY, L. I.—Clarence D. Chamberlin, taxied his tiny Sperry Messenger plane into a line of auto traffic in Stewart Avenue, and astonished motorists by zooming over their cars. The plane rose from the ground within 75 feet; he then flew to Curtiss Field from where he took off for Allentown, Pa., which was the first stop of his 30,000 mile countrywide tour. His plane is the smallest practical model flown in this country.

United States Airplane Carriers

By

Frank R. Parry, U. S. N.

THERE has been completed at Quincy, Massachusetts, and Camden, New Jersey, the two largest vessels ever built in the United States. They also are the two largest naval vessels yet built by any nation. The U.S.S. Lexington and the U.S.S. Saratoga, represent the ultimate in airplane carrier construction. They are in general sister ships.

These two ships were authorized together with the Constellation, Constitution, Ranger and United States in 1907. Each of these was to be nearly 900 feet long, 106 feet wide and to have an armament of eight 16-inch, sixteen 6-inch, four anti-aircraft guns and eight 21-inch torpedo tubes. The six ships, promising to be the last word in naval construction, were to have a complement of 1,500 men each, and to be capable of a thirty-four knot speed. The ships were to be built at various civilian and government yards. Newport News was to get 2, the Navy Yard at Philadelphia 2, and Fore River and the New York Shipbuilding yard one each. Contracts for these were signed in 1917. Work proceeded on them until March, 1919, when the Navy department stopped all construction, due to insufficient funds, for a period of six months. The ships were then about thirty-five percent completed as battle cruisers. Funds becoming

(Frank R. Parry is Chief Yeoman, attached to U. S. S. Saratoga)

available in August, 1919, the six cruisers were again placed under construction and apparently the Navy's dream was coming true.

The dream ended, however, when President Harding called his disarmament conference. The Constellation, the Ranger, the Constitution and the United States disappeared with the rustle of paper and the scratching of pens.... Ghosts of sea fighters whose keels never felt the rise and fall of an ocean surge died while still on the builder's ways.

Never for them the howl of a gale through screaming stays, never for them the benison of a tropical moon. Never a chance to send their broadsides hurtling through space. For them, the wreckers and the junk pile. If it be true, as Kipling tells us, that ships have souls, there must have been weird banshee wailings when the pact was signed. Only the hulls of the Lexington and Saratoga were left. These two ships were authorized in July, 1922, as airplane carriers, by which act a new chapter in Naval history was begun. The Navy had the U.S.S. Langley, first airplane carrier, as the nucleus of ideas for the new ships. Much data had been collected from foreign attempts at carrier building. However, so many new factors had to be reckoned with, so many new features had to be devised, so many entirely new developments in the way of ship building improvised, that the planning was a tremendous task. But the Navy proved itself equal.

Many new designs, some of which are startling to those fortunate enough to be ordered to these carriers, have been incorporated.

First, of course, comes the peculiar construction of these ships above the water line. An airplane carrier must have a landing and a taking-off deck or it wouldn't be much of a success as a carrier. The Langley made her deck by stripping off the coaling gear top hamper which she used as a collier. Then a flat deck from stem to stern was built. The Langley is equipped with a folding stack arrangement, and has no masts. Modern practice, however, as built into the Lexington and the Saratoga, has given the ships the regulation superstructure minus the mainmast. But instead of placing this superstructure on the centerline, the carriers have it all on the starboard side of the top, or Flight Deck. The upperworks, including the bridge, the single (tripod) mast, forward and after gun

mounts, and the huge one piece stack, is termed the "Island."

Such construction alone is sufficient to identify and to indelibly mark these vessels as a type. No coxswain, making his way on an omnibus trip from ship to ship, will ever peer through the murk and curse under his breath as he wonders what ship he is approaching — should the Lexington or the Saratoga loom in front of him. And "loom" is just the word to use. Nearly fifty feet up from the water is a bow like nothing else ever seen on a ship. Instead of coming to a point, or even a slight flare, the bow, starting from the water like a clipper, is cut off to a generous width in order to facilitate plane landings and takeoffs.

From the bow, going aft, there is a magnificent sweep of the Flight Deck for nearly nine hundred feet, ending in another seagoing novelty. This, a huge ramp for landing planes, overhangs the stern. To preserve the integrity of the Flight Deck, all openings, with the exception of methods of bringing the planes up from below deck stowage, are on the starboard side, and in a line with the superstructure. And the Flight Deck, of course, carries launching devices and retarding devices to slow down and to stop planes when landing.

A view of the sides of these vessels shows another oddity in the boat stowage arrangements. Boats have to be carried on all ships and the carriers being no exception, special galleries have been built in the sides below the Flight Deck, for their stowage. Boat stowage arrangements, and many other special features, were due to the necessity of keeping everything off the Flight Deck not absolutely necessary.

The above gives a partial summary of the most striking points of the ships from an outside inspection. Inside the carriers are many more features which are at marked variance from common shipbuilding standards.

The huge hangar space where planes are stowed, ready to the last hair for flight, will take one's breath away with its huge size. Then there are the stowage places for dis-assembled planes; the huge power plant, which can generate enough power to meet all the needs of a city as large as Boston—these are but samples of the wonders these ships contain within their sleek hulls.

The Saratoga was launched in 1925.

As battle cruisers, the ships would have had complements of about 1,500 men plus officers and marines. As aircraft carriers, they have a certain number for the ship's company, plus an allowance of aviation ratings. The exact complement depends to a great extent on what Congress sees fit to provide as a personal strength for the entire Navy. The carriers will have to share alike, of course, with other units of the Fleets. No doubt there will be the same indecision as regards the number of planes to be carried.

One thing which may be mentioned and which will probably result in a great rush of men-o-warsmen for detail aboard the carriers, is that the Flight Deck will be painted, and that great expanse of teak will not have to be holystoned.

For the first time in our Navy, all first and second class petty officers will be assigned bunks. And cooks and bakers will not have to stew in their own juice, because the galleys and bakeshops will use electricity.

Life nets, stretching nearly around the ship, are another feature new to most of the crew. Of a special improved design, they will prove life savers indeed should a plane start to cavort.

A most complete photographic laboratory, optical repair shop and various ship's repair shops, rivalling any on shore; the last word in dental and sick bay facilities—even an X-ray machine; to say nothing of a passenger elevator, are included in the ship's equipment. She has the ultimate in laundries and galleys, and a most modern hot and cold air circulating system can be taken for grant-

A Floating Flying Field. Note the number of planes on deck.

ed. The dental equipment was a feature of great interest at the recent Sesqui-Centennial Exposition held in Philadelphia. Alongside the glittering nickel and the present day appliances of almost painless dentistry was a mess table with a pair of gas pliers to show the contrast between Paul Jones' Navy and ours.

Everything possible, and many things which seem impossible, are to be done by electricity on the Lexington and the Saratoga. Sixteen boilers in sixteen firerooms will generate the power needed to propel the ship and to provide the juice needed for all the other activities. The total horsepower possible to develop reaches the staggering total of 180,000.

As a basis of comparison, take the Colorado. She is certainly no small potato as a man-o-war. She generates 29,000 horsepower. Many of the Saratoga's crew are from the Colorado.

Masthead heights, like much other information concerning the ship such as oil storage, expected steaming radius, provision and plane capacity, etc., are naval secrets and so may not be set down in print. The radio equipment would make an interesting story in itself. Here again, however, the secret angle forbids.

Naval men on both the east and west coasts are endeavoring to be assigned to these carriers now, and it is the Bureau of Navigation's policy to obtain petty officers for the Saratoga from the Battle Fleet. Those of us fortunate enough to be attached to the carriers feel more than the pride of being prospective members of the largest ships; we feel the honor and privilege of being pioneers in this latest development of the Navy.

Seaplane released from catapult

Chanute's Original Models Found

By H. H. Slawson

WHILE American boys everywhere were busy making model airplanes for the national contest held in Memphis, Tenn., in October, the world's most precious set of model airplanes was brought to light in Chicago.

They had been the property of Octave Chanute, who is known in history as "the father of American aviation." In a dusty, cobwebbed corner of the attic of the Chicago Academy of Sciences the valuable relics were discovered in two packing cases. They had been concealed under a pile of rubbish which accumulated since Chanute's heirs presented the models to the museum following his death in 1910.

The academy's field of interest is the natural sciences, not historic relics of this nature, and it was not until a new director, Dr. A. M. Bailey, caused an inventory of odd corners to be made, that they were re-discovered.

When the new Rosenwald Industrial Museum is built in Chicago under plans now being perfected, the set of models, four in number, will be presented to that institution, Director Bailey has announced. There they will form a fitting part in an exhibit showing the development of the airplane.

The models were constructed of bamboo splints and balloon silk and weigh but a few ounces each. The largest has a wing spread of only five feet from tip to tip. Chanute's friends recall seeing the strange devices hanging in the library of his Chicago residence where for years he was pondering the problem of how birds fly.

In 1896 he built gliders on the pattern of these models and in the solitude of the sand dune country on the southern shore of Lake Michigan, near Miller, Ind., put his theories to practical test. His summer's studies there convinced him that the bi-plane type of glider most nearly satisfied the requirements for securing "automatic stability at all angles of flight and conditions of wind," which was the problem he had set himself to solve. In the model of this bi-plane pictured here can be recognized the general form of the common type of airplane of today. He developed it seven years before the Wright brothers.

FIVE YEARS HENCE—

There will be an air line operating between Spain and South America, financially a failure without the support of the subsidy given it by the Spanish government, and operating airships. Zeppelins, that is.

Airplanes will operate to and from liners.

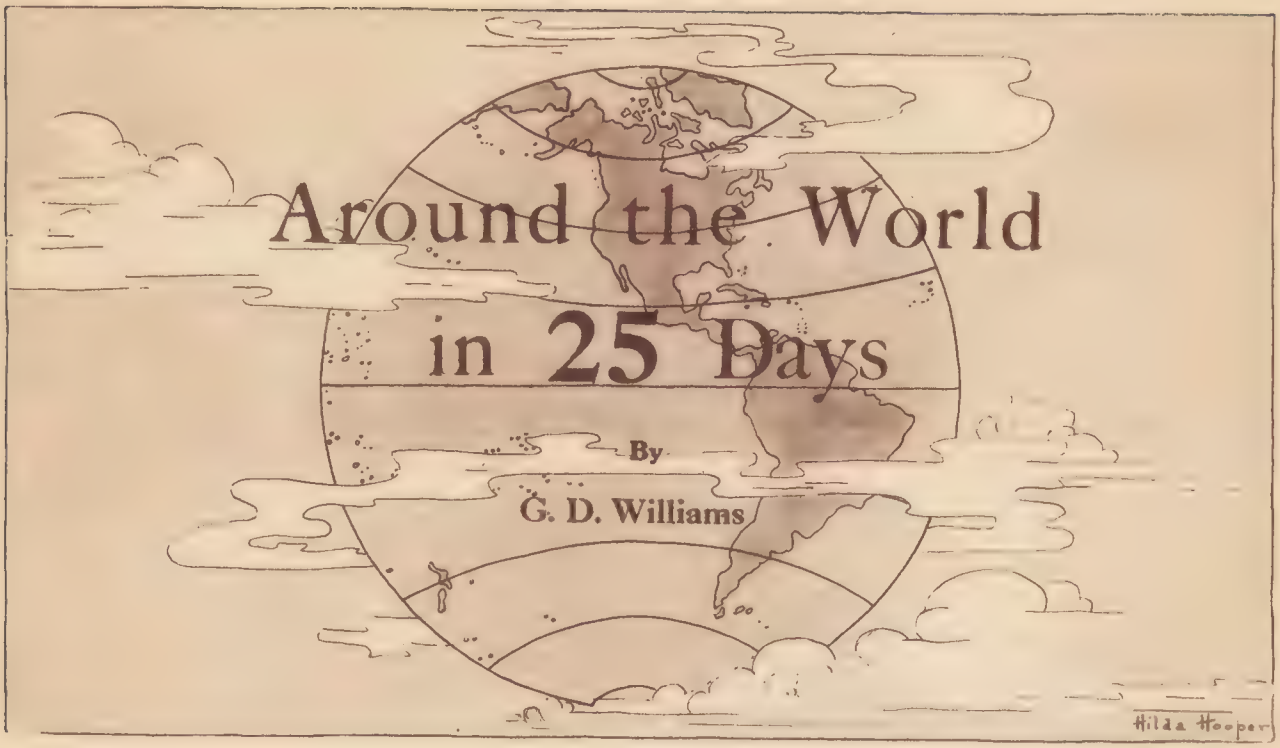
—o—

The next war will have been fought and won in a few days—or perhaps even hours—in the air.

The United States will have created a separate air force, apart from and free from the jurisdiction of the army or navy.

—o—

You won't recall this, so it is safe to make these predictions.



NEXT to Lindbergh's incomparable accomplishment, the daring "World Flight" of two Americans, Brock and Schlee, is undoubtedly the foremost venture in the history of aeronautics. Flying safely and over long distances has at length become fact; unlucky Nungesser and Coli, successful Chamberlin and Levine, Byrd, Acosta, Noville, Balchen, not to forget the daring two, Maitland and Hegenberger, they all, and many more, have added month after month, day after day to the development which will eventually lead to commercialized and practical aviation.

We are but at the beginning of a new era in modern transportation and with the start of the new year 1928 again a host of fliers, male and female, will carry out their plans, heroes all, assisted by the great Bellanca, Curtis, Wright, Fokker, and others too numerous to recite.

It will be remembered that Messrs. Brock and Schlee after a most successful flight across the Atlantic, Europe and Asia abandoned the rest of their planned journey, acting on the advice of the entire world which included geographers and men of great nautical knowledge and experience. After having reached Tokio, Japan, and having covered more than 12,500 miles they were influenced to cancel the perilous trip across the great Pacific via Midway Island and Hawaii. For this they really deserve credit rather than criticism for, to them it was harder to quit than to continue and it is not the object of this article to argue for or against the risky undertaking of sailing 2,553 miles over the Pacific from Tokio to Midway. Enough has been said and written on that subject, however, rather than to encourage another attempt of this kind, the writer thinks it saner, safer and more profitable for all concerned to select tracks which eliminate extremely long distances over oceans.

The sad ending of many brave fliers during the season 1927, Redfern, Frost, Pedlar and comrades, Erwin-Eichwaldt, Hamilton-Minchin, Bertaud-Hill-Payne, Tully and his unfortunate partner, should remind us of the fact that land planes for sea voyages are about as suitable as an open canoe on a trans-atlantic trip.

It remains for our builders and engineers to further develop, to lighten and strengthen the Amphibian Plane, the only sensible vehicle for the negotiation of oceans and land alike.

The itinerary of a proposed World Tour which eliminates long ocean distances and which can—if speed is the object—be completed within 25 days from the day of the start is presented in the following pages.

Starting from the Battery, New York, a plane, equipped for a flying radius of about 2,500 miles takes off and is headed N 77 E toward Montauk Point, L. I., where without making a landing departure is taken, the plane headed N 64 E true and the journey continued to Havre Grace, N.F., 1,151 miles.

The entire distance from New York to New Foundland may or may not have drained the gas supply sufficiently to make a landing imperative, the writer thinks it best to fully reload the plane before starting in the wee small hours from Havre Grace toward the Azore Islands with Punta Delgada, 1,561 miles away.

Punta Delgada on the island of St. Miguel was selected for one reason: Should the flier during the long flight deviate slightly from his course to either side, his chances of missing the Azores are lessened on this course (S 64 E) as St. Miguel, almost the easternmost of the ten islands forms practically the center of the axis of the plotted track and any of the ten islands can be spied from aloft, flying at great altitude.

After fuel and provisions have been replenished at the Azores, de-

Continued on Page 26

A small part of the collection of decorations, trophies, medals and gifts presented to Colonel Lindbergh by the various nations and by people from every walk of life, as they were exhibited by the Missouri Historical Society in St. Louis

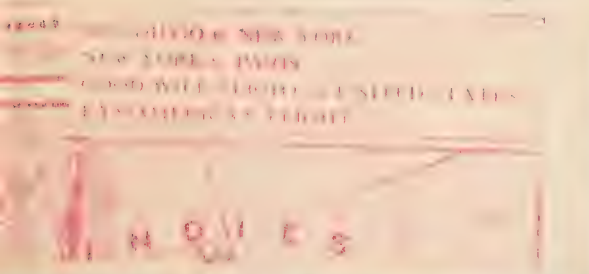
THE "LONE EAGLE"

His Exploits and a few of his Trophies

DURING the year since Colonel Lindbergh first began preparation for his historic New York-to-Paris flight, he has passed 400 hours in the air, covered 40,000 miles, crossed the boundaries of every state in the Union, visited over one hundred cities, kept over 200 speaking engagements and flown over uncharted airways most of the time. During that time he was late but once. His flights have been from San Diego to New York, from New York to Paris; the "Good-Will" flight throughout the United States and the recently completed Pan-American flight.

"The Lone Eagle"

Whose activities during the past year have done more to make the world "air minded" than those of any other single individual.



parture is taken at dawn of the Third Day; the destination, Lisbon, Portugal, 851 miles away.

We will here remind the reader that all courses have been plotted as Rhumb Lines, distances are given in statute miles for the better comparison between distance and time. The rhumb courses, too, are chosen in preference to great circle tracks in order to provide *one course* only between two points and to eliminate cumbersome and uncertain navigation, which, with the uncertain altitudes, ever changing even at the time of observations, will hardly result in greater saving of time and distances. This, of course does not mean, that the Navigator is not needed—he is, in fact, the most necessary officer next to the pilot, ever busy to check up on courses and drifts while traveling over sea or land alike.

The course to Lisbon is N 85 E. A short nine hours should bring the Portugese coast into view and landing at Lisbon is entirely optional, depending on the choice of the fliers, to either stay at the beautiful Capital for the day or to continue to the equally interesting Spanish sea-port of Barcelona, another 632 miles on a course N 73 E.

From Barcelona, with the break of the Fourth Day, the eastward journey across the western part of the Mediterranean Sea toward Palermo (632 miles S 69 E) will be started. En route the plane will pass over the large island of Sardinia and continuing on the same course, from an altitude of 4,000 to 5,000 feet, the distant mountains of Sicily with Monte Pellegrino as a marker will soon appear at the horizon. Now approaching the coast the plane will soon make a descent and gently be set down upon the rippling blue waters of beautiful Palermo Harbor. Here the plane, after re-fueling, will leave again, turning S 27 E; the island will be traversed from West to East, Mount Aetna on the left sending up an everlasting column of smoke, Cape Portio di Palo disappears and the journey across the blue Mediterranean toward Alexandria, Egypt, 1,048 miles, is well under way.

And while floating over the great basin, directly over the track of numerous steamship lines the Fourth Day comes to an end and the early hours of the new day will show the lights of Alexandria, Eunostos Light and many harbor lights directly ahead of the speeding plane.

Alighting within the sea-wall of Alexandria harbor, no attempt should be made to land on Egyptian soil before the necessary formalities demanded by harbor and health authorities have been complied with.

With the beginning of the Sixth Day the hop to Bagdad, Irak, 897 miles away will take the flier over historical ground: on a course N 79 E, Port Said, Jaffa, on the coast of Palestine, later in Jerusalem in the distance on the right side of the plane will be passed over; thence across the Syrian Desert, about a three hour flight and at the end the fair valley of the Euphrates River. But a short time after the River Tigris with Bagdad, the ancient city and birthplace of Arabian Nights.

The morning of the Seventh Day will see the adventurer off toward Bender Abbas, Persia, 805 miles distant. The course is S 55 E. A short stop may be made at this point. On this track the Milagawan and the Pushti Mountains will be crossed and the fliers should seek higher altitude. In turn the plane will pass over the Persian provinces of Luristan, Horistan, Faristan and Laristan. After an hour rest at Bender Abbas the journey toward Karachee, on the border of Baluchistan can be resumed. The course, S 78 E, will lead over hilly country; rivers and valleys will be passed over, also the Bay of Sonmeanee, after which a rocky peninsula which must be crossed at high altitude, Karachee is reached. The distance from Bender Abbas to Karachee is 677 miles which in addition

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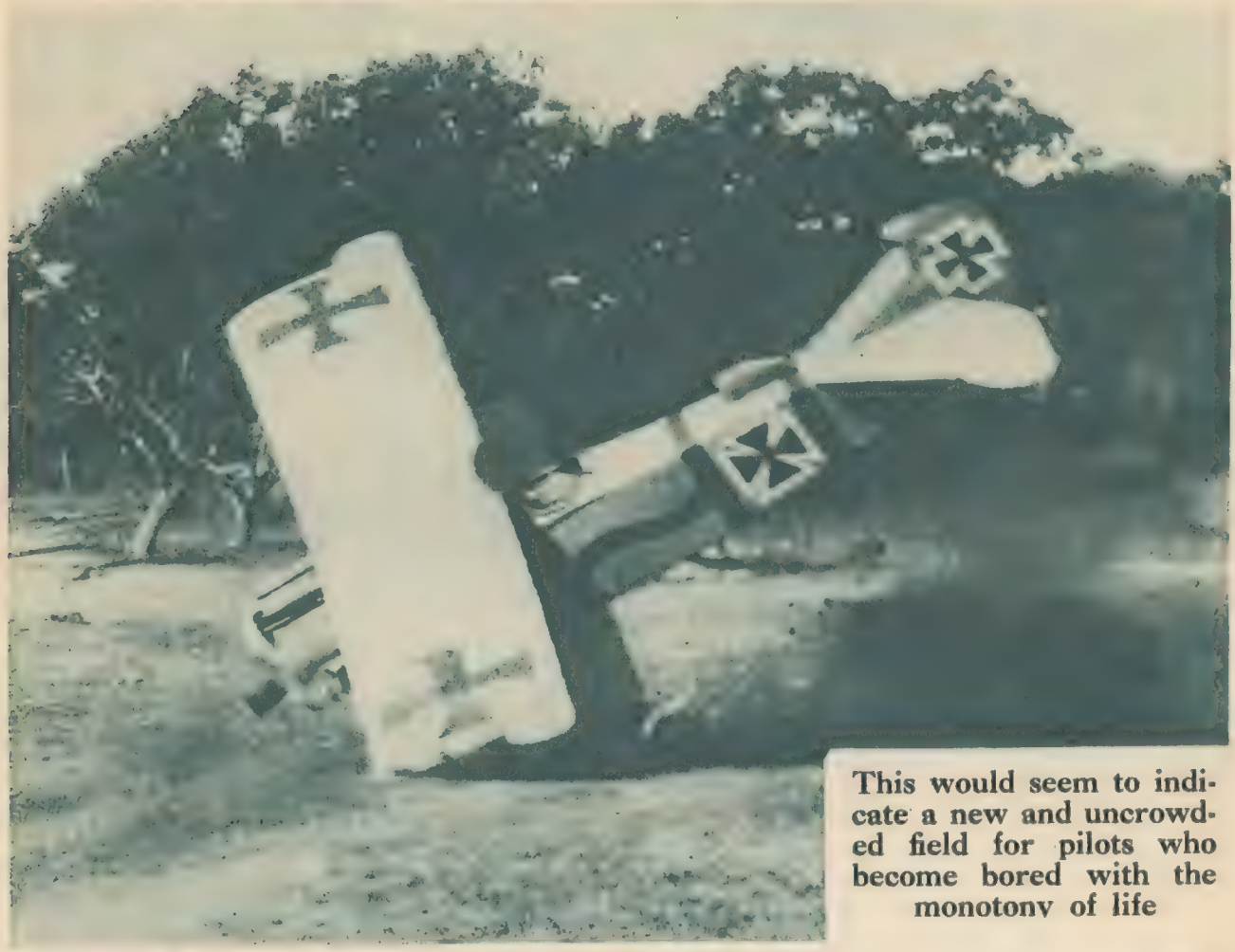
Cuba Greets President Coolidge from Air on Arrival in Havana

CRASHES — at so much per



This would seem to indicate a new and uncrowded field for pilots who become bored with the monotony of life

FOR thrills, no picture in years has caused so much comment as "WINGS," Paramount's war aviation spectacle at the Criterion Theatre. Virtually all of the stirring scenes of combat in the clouds were made by crack fliers of the United States Army, although both Charles Rogers and Richard Arlen, who play the leading roles in the film, spent 150 hours in the air and were obliged to participate in nearly all the perilous scenes shown on the screen.

Incredible risks were assumed by these intrepid aviators so that a lasting visual record might be preserved of the glorious part played by the knights of the air in the World War. All of the hundred or more Army fliers, the squad of cameramen and Director Billy Wellman himself took their lives in their hands at various times but the red badge of courage, by unanimous verdict of the airmen on location near San Antonio, went to a little fellow named Dick Grace.

This young daredevil, who has earned a precarious living in the movie colony for several years as a stunt man, twice performed feats in "WINGS" that the veteran fliers declared were impossible. Only death could result, they averred. Grace got away with the first attempt successfully but on the second undertaking he broke his neck. After spending a month in a hospital, he jumped out a window, disappeared and was not heard from again by the "WINGS" unit until they read on the first pages of the newspapers that he was about to attempt the first non-stop flight from Honolulu to California. He crashed trying to get off the island, but he is still flying and is now back in Hollywood ready for more work.

Grace's specialty is crashing an airplane, a locomotive, a speeding automobile, motorcycle or what not in such a way that it will make cold shivers run along the spines of movie audiences. In other words, he puts the punch in pictures.

When Director Wellman read the script of "WINGS," he perceived readily that he would require the services of Grace. Accordingly, a contract was made with the nervy young man to make three crashes for "WINGS" at a stipend of $500 per crash.

The first opportunity for Grace to display his skill and daring occurs in "WINGS" at the close of the first dog-fight between the rival squadrons of American and German airmen, when Charles Rogers is pictured making a forced landing in No Man's Land, his oil tank punctured by machine gun bullets, and three enemy pilots pursuing him right down into the terrain pock-marked with shell holes.

Director Wellman carefully explained the action to Grace.

The stunt man puffed on his cigarette and said, "Okay."

Then complications arose. The officer in charge of the field heard of what the movie people were up to and forbade such an attempt. It meant certain death, and he wouldn't have certain suicide on his field while he could prevent it. Even the army

pilots, who, as those who knew them can testify, are seemingly without fear or nerves, looked over the ground torn with shells and shook their heads. Nobody could land on such ground and live. They could see only disaster. For three days Wellman and Grace pleaded with the obdurate commanding officer and eventually the confidence of the stunt man won a reluctant consent.

Before taking off in his plane, Grace padded it carefully. Then he picked a spot for his landing—he might just as well have trusted to luck, as the workmen who had torn up the earth had dug huge holes every ten yards.

With an intent audience of aviators, Grace nonchalantly stepped into his Spad, ascended to an altitude of 1,000 feet and then, from out of the sky, he came in a long dive straight for the cedar posts and barbed wire entanglements of No Man's Land. When he came over the slight rise of ground that marked the position of the German trenches he was doing better than 130 miles an hour with the wind "right on his tail."

When he reached the barbed wire entanglements 500 yards distant he was doing about ninety and at that speed, the most terrific that any deliberate crash ever has been attempted, he hit the ground and turned completely over, the plane landing on its back.

It was a long moment of suspense for the crowd which had watched this courageous feat—thrilled by the daring of the man and awed by the spectacle which had just been enacted before their eyes—until they saw Grace's helmeted head emerging from under the wreckage of the plane.

It was with a long breath of relief that they saw him stand erect for a moment, then take a few quick steps and dive head foremost into an eight foot shell hole—as called for in the picture's script. The cameras ceased their grinding and the crowd ran up to the plucky youth. He had literally escaped without a scratch. All his face showed was a smear of mud.

Grace waved aside the congratulations and said, without a semblance of boastfulness, that he was absolutely confident that he could crash in any type of plane and do it in such a way that he will come out of it without serious injury. Grace has had twenty-four forced landings from the air, twenty of them deliberate.

After he had performed this hair-raising episode so successfully, Grace met with no opposition from the Army authorities when it was time for him to undertake the second crash he had contracted to make. Apparently, this was a simple crash as compared with the other. In the story of "WINGS," Richard Arlen, forced down behind the German lines, steals a German machine and as he is sailing away from the airdrome, shoots down a plane, which, just setting out in pursuit, is only about twenty feet above the ground.

Grace did the stunt, his plane turning two somersaults. He had padded it carefully. Wellman and his staff rushed up to him and helped him out. He was momentarily stunned. He posed for a still photograph and then walked off unaided. He said he "felt all right." Some hours later he remarked that his neck felt stiff and he was taken to a hospital where his neck was X-rayed. This examination disclosed nothing unusual and that night Grace went to a dance. The next day he complained that his neck was troubling him and went to a chiropractor who treated him. Next morning the pain had increased and he again had an X-ray taken and this time it was revealed that his neck was broken. He entered a hospital and his neck was placed in a cast.

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The A. S. P. A. and what it is doing

The aims and ideals of the American Society for the Promotion of Aviation should win the support of every citizen with an interest in aviation. The Society's work of organizing flying clubs throughout the country is resulting in making aviation available to the many rather than the few. Over three hundred A.S.P.A. Clubs are already in operation.

Richmond, S. I.

Following the lead of the Queens Aero Club and the Peoria Aero Club, the Aero Club of Richmond are making plans for a splendid ball to be held early in March.

The Aero Club of Richmond, one of the A. S. P. A. units is especially fortunate in being located near Miller Field and many of its members are of the New York National Guard's Air Service.

Lieutenant Ben Perricone, President of the Aero Club of Richmond, recently appeared before the Board of Estimate, New York City, asking that a Staten Island Air Field be considered as the New York City Airport.

Jersey City, N. J.

Under the leadership of Mr. R. D. Stewart, President of the Jersey City Aero Club, a number of meetings have been held and plans are under way for the purchase of an airplane by early summer.

PEORIA AERO CLUB

The following officers have been elected for the year 1928: R. D. Stewart, President; T. A. Flannigan, Vice-President; F. A. Eisenbarth, Secretary; L. C. Breault, Treasurer; N. Vuiasivichi, Sergeant - in - Arms. A Board of Trustees has also been elected. A publicity committee has been hired to keep the activities of Jersey City Aero Club well before the public eye.

Although Jersey City has not as yet located a New York air field, the club has been assured of a large tract of land suitable for flying purposes.

Manhattan Aero Club Official Emblem.

Bronx, N. Y.

Aviation in the Bronx, N. Y., has reached such a height that the organization of a second Aero Club is under way.

The new club will be known as the Bronx Flying Club and will meet every Tuesday evening in the James Monroe High School.

Mr. J. Kangun, prominent in civic affairs, is the leader of the new group.

Montpelier, Ind.

An effort toward organizing the Montpelier Aero Club of Montpelier, Indiana, is well under way under the guidance of Mr. Thomas Spalding, who has interviewed business men and is rapidly bringing together aviation interests in this city.

Mason City, Ia.

The Mason City Aero Club of Mason City, Iowa, is being organized by Mr. Harold W. Vogel.

Further account as to the activity of this club will be given later.

Left to right, top row: Lt. Meyers, N.Y.N.G., Miller Field; Lt. Ben Perricone, N.Y. N.G., Miller Field; Major Geo. Vaughn, Commanding Officer, N.Y.N.G. Air Corps, Miller Field. Mr. Daniel Santora, Architect, Mng. Guiseppe Bellanca, aircraft manufacturer, Sgt. Gordon Hamilton, N.Y.N.G., Miller Field. Lieut. Marion Elliot, U.S.

Hillsboro, Tex.

Hillsboro, Texas, is enthused about the prospect of having an airplane flying under the colors of the Hillsboro Aero Club, early this summer.

Mr. Richard D. West is actively working to promote the Hillsboro organization and reports great progress.

Detroit, Mich.

Detroit, Michigan, will soon have an A. S. P. A. unit well organized and plans now under way are successfully being carried out.

The thousands of A. S. P. A. members in Detroit are rapidly being organized by Mr. Lloyd W. Fall. One of the active organizers is Miss Peggy Hanton, who plans taking up active flying training and plans to solo before the summer is over.

Delta, Utah

Reports received from Delta, Utah, advises that Mr. MacSmith is progressing rapidly in the organization of the Delta unit.

At a meeting recently held, great enthusiasm was shown and plans made for the securing of a landing field and purchase of an airplane for club purposes.

Baltimore, Md.

Reports from Mr. W. F. Peck, President of the Baltimore Aero Club tell of the increased interest in the organization which is adding new members every week, who are already planning flying instruction for members by early spring.

Lexington, Ky.

Mr. Roy L. Shammon of North Lime Street, Lexington, Kentucky, is actively organizing the Lexington Aero Club in conjunction with the American Society for the Promotion of Aviation.

Lexington, Kentucky is fortunate in having a number of ex-army fliers of splendid reputation, prominent among whom are Mr. Robert E. Lee Murphy of the Second Aero Squadron, Mr. Jesse O. Creech, American ace, formerly with the 148th Squadron.

Warren, Ariz.

With Lt. Frank Luke, American spectacular Ace as their inspiration, aviation enthusiasts of Warren, Arizona, are actively organizing the Warren Aero Club in conjunction with the A. S. P. A.

Mr. Dwight B. Sessions is one of the leaders in this work.

Pennsylvania

The state of Pennsylvania according to recent reports has established 56 good landing fields.

It is the desire of the American Society for the Promotion of Aviation to be a well organized flying unit on every one of these fields before 1928 is ended.

Prominent among the communities showing aviation interests are Philadelphia with the Pennsylvania Flying Club and Philadelphia Aero Club, Bethlehem, Easton, Wilkesbarre, Scranton, Erie, Harrisburg, Hazelton, Shenandoah.

In the last week Warren, Pennsylvania, came to the front by organizing the Warren Aero Club in conjunction with the A. S. P. A. Mr. Ed. P. Hall, former R. F. C. pilot, is the leader of the new organization.

The organization of two aero clubs is under way in Pittsburgh. Mr. Bert Shoff has a well organized unit with the members meeting weekly for ground instruction.

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The Yonkers Aero Club recently organized has over 60 members. The club plans the purchase of a seaplane and will fly from a Hudson River base

Making Safe Landings

THE greatest enemy to aviation is fog. Colonel Lindbergh's only failure to be on time during his tour of the country was due to fog. The parachute drops he was forced to make while in the mail service were due to fog. Mail pilots who have lost their lives by crashing into the sides of mountains have met with these accidents either because of fog or snow storms. In this case the altimeter naturally did not show them how high they were above the ground and perhaps being somewhat off their course they did not know they were so close to these mountains.

Crashes into mountain sides can no doubt be avoided through the use of radio beacons. These beacons enable the pilot when flying through a fog or storm that reduces visibility to zero to keep within a lane five miles wide along the course. With beacons placed sufficiently close together along the airway, a pilot can always keep on his course.

With stations along the way sending out signals peculiar to those stations, the location on the course can be determined by the pilot. If he has to fly over high mountains then these signals will tell him when he will have to ascend to a higher altitude. The use of radio, therefore, promises to eliminate all accidents due to getting lost in fog or storm or failing to ascend to a sufficient altitude when approaching a mountain range.

The one thing left to do is to find some method of permitting safe landings during a fog. No light waves have yet been found that will pierce the fog for a sufficient distance. Lights, of course, could be sent up above the fog bank on captive balloons and be used to indicate the location of the field. In this case, however, the pilot would have to allow for the velocity of the wind for the balloons would naturally not be exactly over the field. He would have to make a blind landing and at the same time avoid hitting any of the cables holding the balloons. So, though this is a very simple solution, it is not practical.

Since the most powerful search lights will not penetrate the fog because of millions of reflections of the light rays from the particles of water in the air, it is obvious that some form of invisible rays not affected by fog will have to be used. Radio waves come under this classification and other waves may be found which can be reflected in a beam and not be thrown out of their course by the tiny drops of water which make up fog.

We are already familiar with a number of the ether waves. There is the ordinary electric current such as we use for lighting our homes, the radio waves, the infra red rays, the light rays that are visible to the eye, the ultra violet rays and, of course, the X-rays. Any one of these rays which can be projected in a beam for a great enough distance could be used. We detect radio waves by means

SAFETY FIRST!—Movie airmen take no chances on stalling planes in mid-air. Photo shows group of aviators in "Hell's Angels", Caddo Company's million-dollar air spectacle, before taking off for a film battle above the clouds. Reading from left to right: Ralph Douglas, world's champion parachute jumper, who supervises all safety preparations; Frank Clark, America's foremost stunt flyer; James Hall and Ben Lyon, who are co-starred in the air movie; Frank Tomick, famous world war flyer; Roy Wilson, noted stunt flyer, and Leo Nomis, also a famous trick airman

of a receiving set or instruments may be made which give a visual detection and do away with the necessity of having the pilot wear a head set.

Infra red rays are detected by delicate little instruments that are not very suitable for use where there is any marked vibration and, therefore, this form of detecting them would not do very well on a plane. Ultra violet rays have the power to cause certain substances to glow in the dark which means that it would be a simple matter to design an instrument which would detect a beam. It also would not be a difficult matter to devise an instrument for detecting X-rays. There are still other waves about which, as yet, we do not know a great deal.

Out of this range of ether waves it is necessary to select the most suitable, devise a method of projecting beams to high altitudes and simple instruments on the plane to detect them. Once this is done beams can be projected along the boundary of the field or even from a line drawn through the center of the runways and landing becomes almost as simple a matter in the densest fog as in good light.

At the present time most of the work apparently is being done with radio waves. It has already been demonstrated that the radio beacon can be relied upon for marking the course. It served admirably in the Pacific flights and with perfectly reliable sending and receiving sets it becomes far more reliable and simple than any other method of keeping to the course. The problem to solve in using it for landing purposes, however, is to find a method of sending out very narrow beams in the desired direction. The beacon cannot be relied upon in its present stage of development for a closer approximation than five miles. While this is close enough on the course, it naturally is not close enough for landing. It undoubtedly will be a long time before we will have landing fields five to ten miles across in many of our cities.

The problem, however, is very far from being unsolvable. All that is necessary is to find a wave not deflected by water vapor, a means of sending out these rays in narrow beams that remain narrow for the full distance they are sent and a detecting device for the plane. The rest is merely a matter of making the installations.

When we consider the fact that this problem has been studied but a comparatively short length of time and out of the study has already come the radio beacon we can see what marked progress has already been made. It is possible, however, that some other wave length than that used in radio will have to be used. It is certain there are a great many other available for experimental purposes. In the course of the experiments some we now know little or nothing about may be discovered and found satisfactory.

Aside from the means for finding the landing field under zero or poor visibility conditions, there are other requirements for perfectly safe landings and one of these is a good surface on which to land. We have had the experience during the past summer of seeing a plane waiting for weeks for the runway to dry up and become sufficiently hard to permit a take off with a heavy load. This is akin to the muddy dirt roads of the early days of the automobile. It is obvious that with an increased number of planes using a field and especially during a rainy season a dirt runway is going to be churned into a sea of mud. Obviously such a runway does not add anything to the safety of landing.

Experience with automobile highways points to the need of concrete runways on all landing fields. These runways would not be affected by wet weather to any great degree. Concrete has the quality of retaining its tractive effect when wet to a greater degree than any other material used for road making. With the comparative small area required for runways the laying of concrete would not be prohibitively expensive and when the added safety of landing and taking off is considered we have another argument for the concrete.

With concrete it is not necessary to have as long a runway as is necessary when any other surface is being used for the purpose. Concrete being smooth and hard the plane gathers speed faster and takes the air sooner. The concrete having a surface that offers good tractive contact with tires, it is possible to stop in a shorter distance when brakes are applied to the landing wheels.

The concrete runway being free from all ruts and other obstructions to the wheels, the plane is less likely to be thrown to one side when moving on the runway than it is when other material is used for the surface. This reduces materially the chances of accident when landing or taking off.

Concrete runways, of course, can be used under all weather conditions. They continue to remain hard and smooth. This means that the field can handle more traffic in the course of a year than would be possible with any other type of runway. This additional traffic is likely to more than pay for the expense of putting in the concrete.

With concrete runways it is perfectly feasible to design them with steep inclines that facilitate taking off and bringing the plane to a stop when landing. Because the plane can be kept on a concrete runway with much greater ease than on a dirt one, there is little danger that it will be thrown off the runway and a crash result.

Once we find a practical method to pierce the fog with beams of waves, and construct all landing fields with concrete runways, we are going to make landings safe under practically all conditions and this means eliminating many accidents. With landing fields close enough together and all of them equipped with devices of making landings in fog safe, there is reason to believe that there would be practically no accidents, provided the pilots are capable and the planes are given the right kind of inspections.

It is quite probable that X-Ray inspection of planes will be developed to a degree where mechanical failures in flight, landing or taking off will be inexcusable. In short, air travel already promises to be by far the safest form of travel and also the most reliable.

New Jersey

New Jersey is one of the outstanding aeronautical states and it is evident by the interest now being shown in the formation of aero clubs throughout the state.

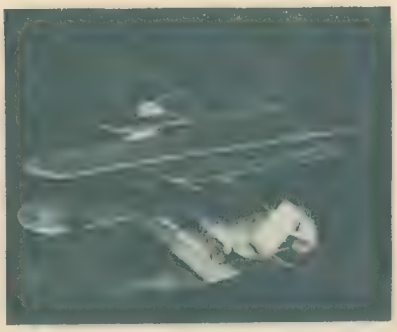
Within the past month, through the efforts of the American Society for the Promotion of Aviation, units have been established in the following cities: Lindhurst, Montvale, Newark, Paterson, Passaic, Trenton, Union City, Wallington, Weehawken, Orange, Jersey City, Bayonne, Clifton, Elizabeth, Englewood, Hoboken, and Hawthorne and the organization of two county units; The North Hudson Aero Club and The North Bergen Aero Club which draws its memberships from various communities.

A "Self-Balancing" Airplane

FROM the pathetically futile wings of Daedalus to the swift and strong transoceanic fliers of today is a long step—or should we say flight?—but man is ever intent upon devising increasingly better means of conquering the forces of the air. Take this newest type of aeroplane, for instance, which is the creation of Mr. Arnold Genrich of New York City.

One is at first impressed by its colossal proportions. It reminds one of a giant beetle, buzzing along in the air—and yet so efficiently does it appear to be planned that not for a moment does one doubt that it will accomplish the purpose for which it is intended. Such thoughts come to the mind of the observer, when seeing the beautifully constructed model of this Self-Balancing Aeroplane which is displayed in the window of Z. H. Polachek's office at 1234 Broadway, and 31st Street, New York City. Mr. Polachek is the patent attorney and engineer who was commissioned by the inventor to obtain patent protection for the Self-Balancing Aeroplane.

Among the many novel features embodied in this plane, and one of the most important from the viewpoint of commercial and passenger aviation, is that the two gondolas, or cabins—for the crew and passengers



Every day sees some new development in the construction of heavier-than-air craft. The "self-balancing" airplane here described is an interesting example of a possible new type of airplane.

respectively—are suspended from the framework of the aeroplane, as shown in the accompanying illustrations, in a semi-stationary level position, regardless of the angle at which the plane may be tilted when in flight. This reduces the amount of discomfort, suffered of necessity by most aeroplane passengers, almost to a nil. By this means the passengers will not feel the swaying of the plane, nor any sensation when it rises or descends to the ground.

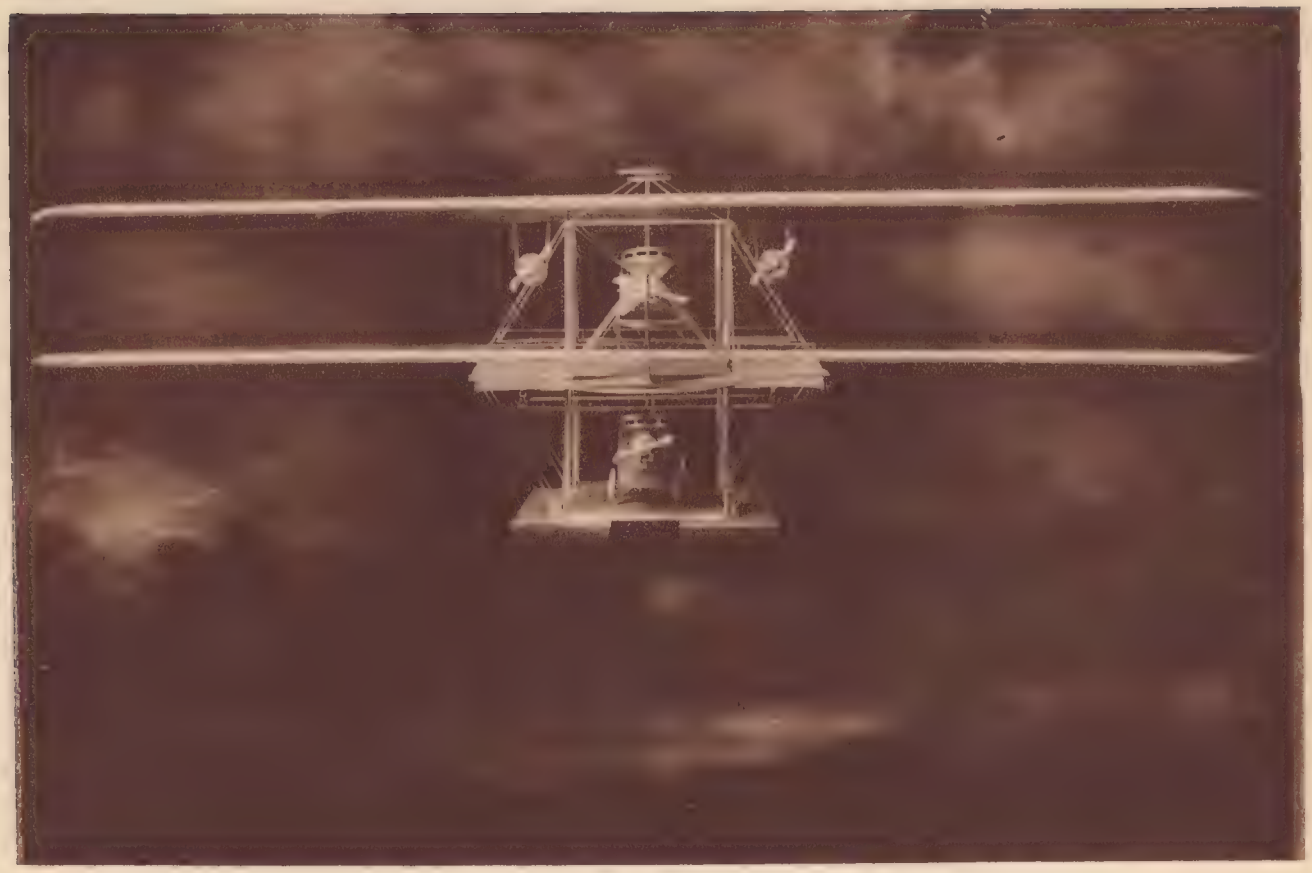
Another important detail is that the cabin, or gondola, may be disengaged from the aeroplane and — being equipped with wheels and a steering and propelling apparatus, can travel for a distance upon the ground. This may prove particularly useful in emergency landings, when it is sometimes necessary to reach the aerodrome or nearest station several miles away, or on various other occasions, when expedient.

The plane is also equipped with pontoon gliders besides the usual wheels,—here we have four, however, instead of the customary two—which enables it to make a forced landing on water.

An unusual feature are the two rudders, front and rear, which are movable and regulate the turns of the plane. There are rectangular members of assistance when making a "climb" or a "dip"—and the gondolas, or cabins, are also provided with tail-rudders that give them the proper degree of slant, and are governable by the controls situated within the said gondolas.

The wings are four in number and of the usual construction, but arranged in such a way as it is believed will be of greatest assistance in increasing the power and endurance of the aeroplane.

Each of the two gondolas is equipped with a motor and controlling devices. These two motors are



only auxiliary, however, in connection with two other motors situated under the central top wing at the sides of the framework.

No transoceanic plane to be used for the purposes of commercial aviation can be complete without a radio apparatus. In this model we see the antennae suspended over the breadth of the three upper wings, picking up musical programs or signals from the coasts, while speeding away across the ocean waves.

The fittings of the gondolas may be left to the men who specialize in this work, but the general structure of these cabins provides for luxurious comfort and meets ultra-modern requirements.

The inventor, Mr. Genrich, has spared no effort in order to make his Self-Balancing Aeroplane as complete as possible in every detail. His work has aroused the interest of many persons who are anxious to see him succeed in the final stages of developing his idea.

Continued from Page 28

Whenever Wellman and Lucien Hubbard, the producer of "WINGS," visited him, he would plead with them to be allowed to do the third stunt for which he had contracted. He was paid for it of course, but the money wasn't what he wanted. A stunt man has pride in his work.

A number of the Army aviators did things during the making of the picture that any stunt man would have been proud to call his own but they took no particular credit for it, asserting in passing that "it was all in the day's work."

The particular officer who qualified for admission to the inner circle was Lieutenant Rod Rogers. This young Texan went up in a plane filled with the type of explosives which produce the realistic effect of a plane bursting into flames. In his mouth he carried a quantity of the kind of stuff actors use to make it look like they're bleeding to death. The idea was that when he got up to 6000 feet he was to turn the switch of a mechanical camera which operated itself and which was located just in front of the pilot in the cockpit. He would then pretend to be hit by a bullet, allow the blood to gush from his mouth, let go the stick, and kick the plane into a tail spin with his foot. While the mechanical camera ground on and on, he would come down out of control.

The shot record by the camera is one that is picking audiences out of their seats and according to aviators is about the toughest stunt on record —to sit limp and useless while your plane tail spins toward the earth, knowing that at the last moment you must right it or meet certain death.

It isn't in the picture, but the studio has the film and a few people have seen it—the moment when Lieutenant Rogers peeped over the side and saw that he was only 500 feet above ground. He came out of his assumed trance, grabbed the stick and pulled it back against his waist and made one remark, which subtitle registered on the screen in amazing fashion and can be compared to those seen—not written—in "What Price Glory."

Bert Hinkler, London-to-Australia Flier, in his Avro "Avrian" plane.

STUNTS—why are they done and how?

By

A. J. Modock

TO the non-flying public, airplane stunts are dangerous and are to be avoided by all, pilots being no exceptions. The newspapers have created no small portion of this sentiment in their search of "popular news." It is not the purpose of this article to contradict this view-point, but rather to explain what stunts are, where their dangers lie and let the reader judge for himself the value and need of stunting.

By stunting is meant the sudden maneuvering of any airplane rather than long distance non-stop flights, etc.

To understand what happens in the air during a maneuver, the reader first should know a little of how the lift of an airplane's wings is created and how this lift varies. When the wings are moving forward through the air, the air is deflected downward. The reaction to this downward motion of the air is a lifting force acting on the wings. If the wings move more rapidly, a greater downward flow is caused and a greater lift developed. Also if the nose of the airplane is raised, the wings meet the air at a greater angle, and again a greater lift is developed. This is true up to a definite angle (about 20 degrees). At this point the wings are tipped up to such a degree that the air is unable to flow smoothly over the upper surface and an eddying flow suddenly appears. With the appearance of this type of flow the lift suddenly shrinks to a much smaller value. This is known as the stall, because with the appearance of this eddying flow, the drag of the wings greatly increases, the airplane's speed is reduced and a further decrease of lift occurs and the airplane drops until either the speed is regained or the ground interferes. Thus to fly level at high speed the airplane's nose is kept level. If the nose is raised at high speed, the lift becomes greater than the weight and the airplane climbs. To fly at slow speed, the nose must be kept up to compensate for the loss of lift caused by the reduced speed.

Here is a close-up of the Curtiss Hawk—a pursuit plane of modern type. These fast little ships are capable of all possible aerial maneuvers.

Practically all stunts may be analyzed into two basic maneuvers just as words may be reduced to letters. These two maneuvers are the "pull up" and the "stall." By "pull up" is meant raising the nose of the airplane at high speed until the wings produce a lift many times greater than the weight of the airplane. The "stall" is the same maneuver extended beyond the angle of maximum lift to where the lift is small and the resistance large. With either of these maneuvers the 'plane may be turned with the rudder.

The loop is the simplest maneuver of all. Speed is gained by diving the airplane. Then the nose is pulled up and the airplane begins to climb. However, as it continues to climb, its nose goes higher and higher and the result is having "flown" around a vertical circle. At the end of the loop the speed is greatly reduced and the pilot will usually dive until he has sufficient speed again. In a well-built airplane and at sufficient height to avoid obstacles, a loop is not to be feared.

A Spiral, a Vertical Bank, and a Wing-Over are so similar, that they may all be treated together. The 'plane is pulled up to a large lift and turned so as to perform a horizontal loop which, if continued indefinitely, is a spiral. If straightened out immediately so as to merely change the direction of flight it is known as a bank. The wing-over is similar to the bank except that the 'plane is not banked so much and tends to "slide up hill." It loses speed and is dived back "down hill" again to regain it.

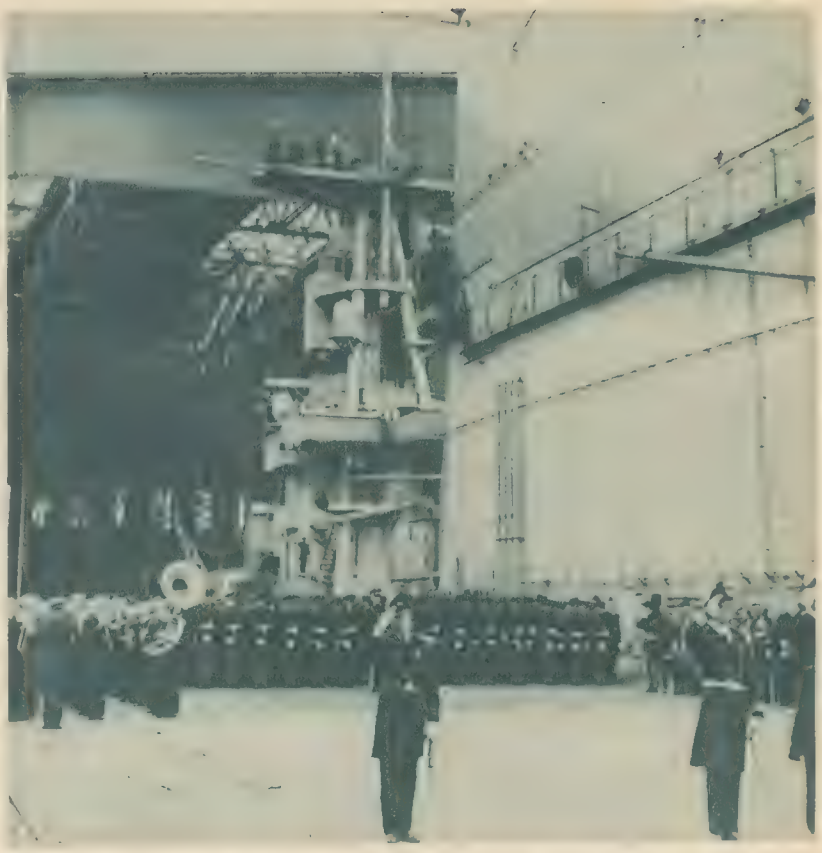
Another distinct group of maneuvers are centered around the "stall." When an airplane is stalled, it becomes unstable and rolls about a line parallel to the direction of flight.

First of the maneuvers of this group is the roll. This is accomplished by "stalling" the airplane at high speed and starting it to turn one way or the other with the use of the rudder. The result is a rapid rotation about approximately, the flight path. The resistance is large of course and if the maneuvering is continued for more than one or two turns, the speed is lost, the nose drops and we have our old friend, the "tail spin"; i. e., the rotation continued but the flight path is now down to the vertical. To recover from this predicament the nose of the airplane is permitted to drop back parallel to the flight path and the rudder is returned to center. The resistance is now reduced and the airplane gains speed and may be leveled out into horizontal flight again. The two dangers of the tail spin are, first, failure to regain flying speed before leveling out and, of course, insufficient room to *accomplish* this. The result is either a second spin or a crash or both. An ordinary spin is begun by stalling and then turning sharply with the rudder as the nose is raised and the speed is lost. The airplane "falls off" sideward, the nose drops and a steady rotation follows so long as the airplane is kept "stalled." The war famous "Immelmann Turn" is a combination of these two basic maneuvers. The pilot dives on his victim shooting as he goes. When he has come close enough, he performs a half a loop and when on his back at the top of the loop, does a half roll and continues back toward the position from whence he began to dive.

One general maneuver which can not be included in the above analysis, is the "slip." It is achieved by

over banking while turning and thus sliding "down hill" sidewise or it may be done while in straight flight. "Fish Tailing" is the opposite form of the side slip. The difference is that the 'plane skids forward rather than down while pointing to one side of the flight path. This type of maneuvering may be used either to lose height when approaching a landing field or to enable the pilot to see directly ahead. It frequently is combined with either of the two basic maneuvers as in the "Wing Over" and the start of a normal "Tail Spin."

All of these maneuvers must be known by, and familiar to, the pilot. He may accidently find himself in some unusual position because of gusts, holes, bumps, etc., in the air. This statement applies to all pilots —private, commercial and military. Of course the military pilot makes use of these maneuvers in his job of attacking and defending, whichever it may be, but each should know, understand, and be able to recognize his position. Stunting in a sound, tried airplane at a reasonable height is not to be feared but flight of any sort close to the ground should be avoided except where absolutely necessary because of poor visibility.



A scene on the deck of the Airplane Carrier, U.S.S. Saratoga

9100 Miles in Nine Days

LIEUTENANT KOPPEN, of the Dutch Army Air Service, with two passengers and a FOKKER F-VII TRIMOTOR powered with three 180 h.p. Siddeley Lynx engines, landed at Batavia, Dutch East Indies, on October 10, 1927, having covered the 9,100-mile trip from Amsterdam, Holland, in ten elapsed days, of whch nine were actual flying days. It is interesting to note that this flight, which constitutes a record for distance covered in such a short period of time, was not a stunt performance but was conceived and carried out as a pathfinding flight for the proposed air mail service between Holland and the Dutch Indian Colonies. We understand that a load of official air mail was carried on this flight, of which the delivery was accelerated from three weeks to ten days.

It is known that the director of the Royal Dutch, or K.L.M., air line, Mr. A. Plesman, is at present in the Dutch Indies in connection with arrangements at that end of the route and it is therefore evident that a serious effort to establish a regular service over this enormous distance —nearly four times as long as the New York-San Francisco route which is at present the longest regularly operated air line—is to be expected in the near future.

It is somewhat amusing to note that Lieutenant Koppen avoided the delays which have, up to the present, been imposed on practically every long distance flier who passed through Turkey's territory, by insistence of the Turkish authorities in Constantinople on compliance with formalities, lasting anything from three days to a week. He did so by the simple method of flying non-stop from Sofia to Aleppo, passing right over Constantinople and Angora, and, figuratively speaking, "thumbing his nose at the Turks." This angle is an extremely important one, as it demonstrates that the restrictions imposed by many countries on through trade by means of red tape, cannot be maintained in the case of air traffic.

Lieutenant Koppen's itinerary was as follows:

October 1, 1927—Amsterdam to Sofia.
October 2, 1927—Sofia to Aleppo.
October 3, 1927—Aleppo to Bushire.
October 4, 1927—Bushire to Karachi.
October 5, 1927—Karachi to Allahabad.
October 7, 1927—Allahabad to Calcutta.
October 8, 1927—Reported over Akyab flying towards Banpkok.
October 9, 1927—Arrived at Batavia.

It will be noted that the only day lost was at Allahabad, to which the pilot was forced to return, after taking off October 6, on account of weather conditions.

The FOKKER F-VII TRIMOTOR used is exactly identical with those built in this country by the ATLANTIC AIRCRAFT CORPORATION, but fitted with three Siddeley Lynx engines of 180 h.p. each instead of the more usual three Wright Whirlwinds of 200 h.p. each.

Marshall Has Special Course

AS is well known in the profession but is not so generally understood by the average enthusiast interested in flying, an ordinary flying course does not qualify a graduate as a commercial pilot, merely because the graduate will not have had the necessary number of hours in the air.

To solve this problem the Marshall Flying School has added a special course which will qualify a graduate as a Limited Commercial or Industrial Pilot, according to an announcement by Derek White, general manager of the school.

The Marshall Flying School, which uses only licensed airplanes and licensed instructors, has added this course because of the number of persons who want assurance that they can start carrying passengers or otherwise start earning money as soon as they graduate.

A large number of flyers have been getting around the problem of getting the necessary fifty or more hours by taking a regular flying course from a reliable school, and then getting additional hours in the air by renting an airplane by the hour or making other arrangements whereby they can get the use of an airplane for the additional hours.

However, there seems to be a certain number of individuals who want to take the entire fifty hours of flying instruction. For the benefit of these the Marshall Flying School has added what they call their Industrial Pilots' Course which qualifies for the Department of Commerce Limited Commercial or Industrial Pilots' License.

The School is also giving a complete ground course which qualifies for the Department of Commerce License as Licensed Airplane Mechanic and Licensed Engine Mechanic, and they are pointing out to all students that these mechanics' licenses must be obtained before they can go out and work on licensed aircraft.

The Marshall Flying School has recently issued a new illustrated catalog giving complete details of its training which may be had on request.

The Marshall Flying School of Marshall, Missouri, has just bought an 80 acre tract of land for the Marshall Flying Field, according to a statement of Derek White, general manager of the Marshall School.

This new tract will be used for training students and is an absolutely level four way field, with two runways, one 2,700 feet in length in the direction of prevailing winds and the other runway 1,400 feet long.

Three acres have been reserved and graded for automobile parking purposes and construction has started on two steel hangars to have capacities of 12 ships each. In addition a field office, a parts room and a gasoline and oil service station for both airplane and motor cars is being built.

The field is easily located from the air by observing the markings on the roof of the new Nicholas Beazley Airplane Factory, with which the Marshall Flying School is affiliated, and which has a large arrow pointing to the field located just three miles from the plant.

In addition to acquiring this new field, which has a 2,700 foot frontage on the main highway to Kansas City and St. Louis, the Marshall Flying School has just purchased ten new training planes for school purposes.

The Marshall School in addition to giving complete flying instruction, conducts a Ground School in Marshall which gives complete training in airplane building and repair, engine overhaul, rigging, instrument work, aerial navigation, meteorology and other subjects. This Ground Course qualifies students for a Department of Commerce License as airplane and engine mechanic.

Mrs. William A. Bailey

One of the organizers of the Yonkers Aero Club, Yonkers, N. Y. Mrs. Bailey is an ardent aviation enthusiast and has been putting in flying time at the Barrett Airways, Armonk, N. Y.

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the Group's Confirmation Officer was able to locate men in the trenches who had witnessed the combat and positively saw seven Fokkers take their pilots into the Valhalla of Airmen. Proof of seven Huns and one Spad that had either burned, crashed or gone to pieces in the air was brought back to our Squadron. So the record of this fight read—Lieut. Kinney missing, seven Fokkers officially credited with destruction, four Fokkers unofficial.

To give each man participating in this fight his rightful due in regard to enemy 'planes destroyed was no easy matter. All reports coincided to the effect that Kinney, Manning, McMurry, Schenck and Plush had accounted for a 'plane apiece. Everyone had shot up practically all his seven hundred rounds of ammunition and each was positive he had brought down one or more Huns. The final accounting was an official Hun 'plane to each one in the dog fight with an additional share in another one to Jim, Peyt, Mac and Lew.

After the Armistice had been signed it was learned through the Red Cross that Clair Kinney was dead. He had sent one Fokker down in flames and shortly after came down back in Hunland out of control. He crashed and before he could be pulled out from the 'plane it had started to burn. He was taken by the Germans to a military hospital in or near Stenay and found to have received four machine gun bullets in various parts of his body. Also his legs were badly burned before he was taken from the Spad. He died eight hours afterwards from loss of blood and effects of the burns. His grave was found in the military cemetery near Stenay.

Rival War Aces to Meet Again

Walter B. Wanamaker and Ernst Udet, who in July of 1918, fought an aerial duel in which Wanamaker was shot down, have since become friends. Udet will soon come to America and visit Wanamaker as the latter's guest.

Airplanes for Advertising

By Rollin J. Fairbanks

THE use of airplanes for advertising purposes has been recognized by the business men of the country as one of the most effective means of getting a product before the public. The systems involved in this type of advertising have been many.

About the first method used in "air advertising," as it is commonly called, was the scattering of printed matter over a city. At first, this proved to be quite popular as the sport of trying to catch one of the flashing sheets of paper as it lazily floated down from the sky, appealed to both young and old. The city officials, however, placed a ban on this system of advertising as the paper sheets littered up the yards and streets.

The second method is the so-called "Sky Writing." This has proven very effective and has been adopted by quite a few large concerns. It consists of writing words across the sky over a city by use of smoke which streams from the rear of the 'plane. On a still day, a message written in the sky can be read fot quite a period of time. As, however, with most clever ideas, this has become common and passé so a new method had to be found.

This third system of "air advertising" is the delivery of purchases by 'plane. This was, and still is, used by department stores in the smaller cities. Only a few deliveries are made but the publicity received is great!

One of the latest methods used is the "talking from 'plane" system. A strong amplfying unit plus a loud speaker, is used and when flying rather low, the talking can be heard quite clearly on the street. This produces a weird sensation and is often called, "the voice from the sky."

Another system used is the "free-ride offer" plan. A store or group of stores gives out a ticket with each purchase and the person holding the lucky ticket at the end of each day, is given a free airplane ride. This is also done more in smaller cities where flying is not so common.

Possibly the next move will be to tow a billboard behind a 'plane similar to the sleeve target used in military maneuvers. Quien sabé?

The French Trans-Ocean Flyers

Giving three cheers for the French trans-ocean fliers as they reach Washington, D. C., in their plane "Nungesser-Coli." Left to right: Maj. Georges Thonault, French Military Attache for Aeronautics; Lieut. Dieudonne Costes; Paul Claudel, the French Ambassador to the United States; Lieut. Comm. Joseph Lebrix; Secretary of War; Dwight F. Davis, and Secretary of Navy Curtis D. Wilbur.

Lieut. Dieudonne Costes and Lieut. Comm. Joseph Lebrix climbing out of their plane "Nungesser-Coli" after their arrival at Bolling Field, Washington, D. C. At the extreme left is Commander Davidson of Bolling Field. At the right is Commander Wick of the Naval Air Station in the Capital.

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to the mileage traversed between Bagdad and Bender Abbas should put the fliers in fit condition for a night's rest.

The approximate distance between Karachee and Agra, Hindoostan, India, is 724 miles. The approximate course N 79 E. The proximity of large mountain chains make the local variation as shown in charts doubtful and rather than depend too much on the compass, the flyer should follow landmarks and railroads. Leaving Karachee, the course should be followed until the wide Indus River has been reached; here the fliers turn the plane to northward, following the Indus up to the city of Hyderabad, but a few miles away. At Hyderabad the course again can be resumed, however, the railroad out of Hyderabad running direct to Agra via Joudpore and beautiful Jeypoor, affords an excellent guide to the best passage over the Arayulli Mountains which have to be crossed before reaching Agra. On the track to this city streams and valleys, mountains and desert will alternately change the kaleidescopic picture seen from aloft.

Agra, on the Jamna River, one of the most beautiful cities of northern India, might be a difficult spot to land and in order to prevent accidents to either fliers or inhabitants, it would be best to have the authorities "clear" the traffic of the river prior to the landing of the plane. Of truly oriental splendor, the place is well worth seeing. Here the marvellous Taj Mahal, the beautiful Memorial dedicated to the departed queen of Shah Jehan and built between 1629 and 1650 can be visited; this palace is described as the world's finest example of architecture.

To do justice to India, volumes have been written; a trip around the world in 25 days, however, does not permit long stops nor the frequent deviation from a fixed itinerary and a brief rest at Agra the fliers will resume their journey on the morning of the Ninth Day setting their course S 61 E for a 709 mile trip to Calcutta and Diamond Harbor. When after a run of 274 miles the city of Allahabad has been reached, the course should be changed S 63 E true, with careful consideration of the uncertain magnetic declinations in these latitudes. Another 435 miles of travel, during which the town of Mirzapore and the Kymore Mountains, will be passed will see the plane approaching the largest of India's cities, Calcutta; the heavy traffic on the Hooghly river, numerous turns and bends make a landing too dangerous and the river should be followed south to Diamond Harbor situated near the mouth of the river.

Out of Diamond Harbor on the Tenth Day the city of Rangoon, Burma, is reached in about seven hours on a course S 36 E, 639 miles. The track of this projected flight intersects at this point with the track of Brock and Schlee as it did also between Bagdad and Karachee. The great two, on their way East, however, after leaving Rangoon omitted Bangkok entirely and flew unnoticed directly to the city of Hanoi.

After but a short rest at Rangoon, the fliers can resume their journey toward Bangkok the same afternoon as the distance is a mere 358 miles, easily traversed within 4 hours, weather permitting. The course S 54 E, across the Gulf of Martaban and Tenasseram points directly to Bangkok on the large bay.

From here, on the early morning of the Eleventh Day the journey can be resumed with either Saigoon (472 miles, S 64 E) or Hongkong, China, as an objective.

The writer originally planned Saigoon. The frequency of Typhoons in these latitudes, however, especially severe during the months of July to November, would make the direct track toward Hongkong the safer of the two; the distance, too, is naturally much shorter, the climate at Saigoon not the healthiest in the world.

We therefore make Hongkong, 1,081 miles away on a course N 56 E, the next destination. On this course the track leads over the Gulf of Tong-King instead of the treacherous Chinese Sea, the graveyard of the Orient.

Leaving Hongkong on the morning of the Twelfth Day, the course will be N 32 E toward Shanghai which should be reached after an easy eight hours travel over the Chinese provinces of Quang-Tung, Foo-King, Che-Kiang. The Ta-Yu-Ling and

Friday, the 13th, a Jinx for Army 'Chute Men who defied the jinx and met with ill-fortune as they practised 1500 foot jumps at Bolling Field, Washington, D. C.

The Ford Flivver Plane Arrives in the Capital

the Tian-Tai Mountains will be scaled on this track; after crossing the latter the large city of Hang-Chow on the great bay will be passed over; an hour later the destination, Shanghai, a British city transplanted into the Orient, is reached. The distance between Hongkong and Shanghai is 737 miles.

Brock and Schlee proceeded from this point directly to Japan; their experiences on the run to Omura and Kasamigaura were far from pleasant. The Yellow Sea plays no favorites and its eastern part should carefully be avoided.

From Shanghai, therefore, on the Thirteenth Day since the start at New York, the plane will be headed N 34 E toward the peninsula of Korea with Chemulpo as harbor. The trip across that portion of the Yellow Sea is comparatively safe and measures 520 miles on a rhumb course. Immune from the average storms and ravages of the sea, Chemulpo is a quiet, friendly port; fuel and provisions can be obtained here, shelter at many of the modest homes of the inhabitants; however, it would be best to make arrangement for a sufficiently large gas and oil supply ahead of time. This precaution must also be taken prior to arrival at the following ports of call: Petropaulovski, Kiska Island, Unalaska and Kodiak Islands.

Leaving Chempulpo after a brief stay, either of two routes may be taken, one of which we give in detail.

Route First will take the fliers via Tokio, Iturup Island and the Kurile Islands to Petropaulovski.

The Second, optional route will lead via Vladivostock, Siberia and Nicolajevsk, across the Island of Sakhalin and the Sea of Okotsk to Petropaulovski.

The course from Chemulpo to Tokio, Japan, is S 80 E; the distance 737 miles. The peninsula of Korea, as the southern part of the Japan Sea will be traversed, many islands passed en route during the eight hours of travel toward the shores of Nippon.

Brock and Schlee are full of praise of the kindness and politeness of the Japanese people. The Land of the Cherry Blossom royally welcomes the visitors from strange shores and a stay in this friendly country should prove to be a most pleasant one. But with the break of the Fifteenth Day the trip to Petropaulovski should be resumed. The start should be made in the early hours of the morning; a run of more than 1,500 miles without stop requires at least 16 hours of travel and Petropaulovski should not be entered after nightfall unless absolutely unavoidable. The new course is N 36 E, the distance to Petropaulovski 1,551 miles.

En route to that city the mountain coast of Nippon is left behind when passing over Sendal Bay and Figami Island. Land again will be sighted when Cape Nossyam, on the north-east extreme of the Yezo-Peninsula looms up in the distance. The Cape will be passed and about 30 miles further north the island of Kuna-Shiri will be passed over. Here the course can be changed slightly to northward until the coastline of the large, long island of Iturup has been reached, when the old course N 36 E will be resumed and kept until the north-east extreme of that island has been passed, when again the course will be changed to N 41 E. Arrived at this point 853 miles of the entire distance between ports have been covered with another 662 miles to go. Bearing slightly to eastward on this new course, a long chain of islands will be passed while crossing the Sea of Okhotsk. In turn the Islands of Urup, Broughton, Simousir, Ketoy, Matana, Shias-Kotan, Kharim-Kotan, Oune-Kotan, Mouk-on-Rushi, Pore-Musir and Soumshu, all of the Kurile group will appear and vanish on the eastern horizon as the fliers are nearing the coast of Kamchatka. Vilutchin Mountain, an extinct volcano on the peninsula, will serve as an excellent landmark and passing the mountain to the eastward, the town of Petropaulovski lies dead ahead on the course of the plane: N 41 E.

Although very little improved and rather uncivilized in appearance, there will be little difficulty in obtaining the necessary provisions and supplies. (Gas and oil should have been arranged for in advance). Accomodations as well as wholesome food can readily be had. The plane, at this point, should be looked over carefully and fitted to withstand the strain

of the next flight via the Aleutian Islands to the West Coast of North America.

Leaving Petropaulovski at the break of the new day, the Sixteenth since the start, the course is set N 72 E toward Bering Island, 464 miles away. Arrived there, at Cape Khitroff, the course will be changed to S 64 E with Copper or Mednoi Island as the next turning point. The distance to Copper Island is 64 miles; Here the course again will be changed to S 62 E, the plane now heading for Attu or Near Island, the westernmost of the Aleutians.

Again the writer calls attention to the rapidly changing local magnetic variation which should carefully be considered, checked and applied; the latest available charts should be obtained carefully avoiding Russian chart issues which are entirely unreliable and unsafe to use.

The distance from Copper Island to Attu Island is 234 miles. In these latitudes the flier, during the months of July and August will have very little difficulty arising from possible ice or snow. The climate, too, during these months is mild and friendly; however, early morning fogs are frequent. In general, high altitudes, not less than 5,000 feet should be sought in traversing the entire chain of Aleutians. Icebergs, too, drifting in with the current coming out of Bering Strait, might prove a menace or even disastrous and since there are no absolute limits as to their size they, too, are best avoided by seeking high altitudes. From Attu to Kiska Island the course is S 70 E true. The distance 194 miles. At this island a stopover can be made (weather conditions permitting) or at the further island of Unalaska. Most of the Aleutians are inhabited; outside of food, water and shelter, nothing is obtainable from the queer tribe inhabiting these islands.

From Kiska to Amchitka Island the course is S 61 E. The distance but 84 miles. After passing this island, where again the course will be altered to N 82 E true, the plane is headed for the Island of Adakh, 207 miles away. On this run the 180th Meridian will be passed, a Calendar day has been gained, and at Adakh Proper, the course will be changed to N 80 E for Unalaska Island, 435 miles to the East. At this island a rather large settlement will be found; stores and provisions as well as certain necessary ship's supplies can be had; while this sometimes also includes gasoline, it would be unsafe to rely on this.

From Unalaska a run of 613 miles on a course N 64 E will carry the traveler to Kodiak Island where at St. Paul Harbor, fuel, provisions and stores should be awaiting the flying party.

The trip from Kodiak Island to the West Coast of America with Sitka, Alaska, as destination requires about 7 hours travel. The distance 696 miles and the course S 86 E.

S 40 E from Sitka will bring the fliers in direct line with Vancouver Island where at Victoria the course can be changed to S. 49 E for a run to Seattle, Washington. Here a good stop should be made, the plane and engine carefully looked over and fitted for the "last leg" of the great grind across the vast Rockies and the United States continent.

The distance from Sitka to Victoria is 771 miles, from there to Seattle 75 miles.

On the Twentieth Day the final start is made. Salt Lake City, 694 miles distant is on a course S 47 E; from there to Kansas City, Mo., another 874 miles, N 82 E., thence to Chicago, 463 miles, N 66 E, to Buffalo, N 81 E for 453 miles and the final dash to the Starting Point: New York S 59 E 294 miles away, thus bringing to a successful end a trip which included twenty odd countries, thirty stops at towns, cities and Islands, comprising a total of 21,888 statute miles and traversed within the time of 25 days.

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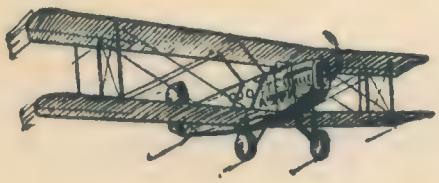
California

Through the effort of the A.S.P.A. organizers, California is more than holding its own in club organization.

Prominent among the cities where aero clubs have already been established or are being established is, Berkeley, Chico, Grass Valley, Hemet, Hollywood, Huntington Beach, Oakland, Sacramento, San Diego, Los Angeles, San Francisco, San Gabriel, Willets.

The Los Angeles unit is being organized under the direction of Mr. Gene Brooks, former R.F.C. flier.

Organization meeting of the Yonkers Aero Club



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As a Member of

AMERICA'S GREATEST AIR SOCIETY

The American Society for Promotion of Aviation was organized by 12 ex-service aviators at the Army and Navy Club, New York City, in 1925.

Our objects as incorporated are to "arouse and maintain interest in aviation" and eventually to

"MAKE-AMERICA-SUPREME-IN-THE-AIR"

We can accomplish our objectives by having a landing field or air port in every town, and by training red-blooded Americans in the art of flying.

We will co-operate with you in organizing an Aero Club in your Community

We have already organized over 300 Clubs throughout the United States

You can participate in this great movement by becoming a member of THE A. S. P. A., and, as our representative, work for aviation in your community.

Join Aviation's Great Fraternity—ENROLL NOW! ! !

MEMBERSHIP *fee one dollar which covers the cost of silver wings, membership card and literature of the A. S. P. A.*

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522 5th Avenue
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Yes, I am interested in aviation! Please enroll me in the American Society for Promotion of Aviation. I enclose membership fee of One Dollar. Please send me my wings.

Name.....**Dept. AS**

Address.....

City.....**State**.....

Continued from Page 8

landing field and no guiding light could penetrate the fog. A check of the gasoline supply revealed that they had sufficient fuel for only three hours of flying. The logical thing for them to do was get away from Paris.

Landing in the city in the dark would spell disaster for the entire crew. Byrd ordered them to go out toward the sea. An hour of flying and they saw a lighthouse at a distance. There was no lighthouse in Paris; they must be flying over water. The commander ordered them to clear for a crash. The crew had gone through this drill many times. Immediately they kicked out all the glass from the cockpits; threw all the movable instruments overboard and other articles that might become loose.

Battered by storm and blinded by fog, with a compass out of order and out of gasoline, 175 miles from Paris, their goal, the plane fell into the sea near Ver-Sur-Mer. The gigantic Fokker plane plunged into shallow water, 200 yards from the beach and then sank to the top of its wings. For the second time, Comander Byrd and his heroic comrades had undertaken a hazardous feat and achieved success, even if they did not reach Paris.

Commercial transoceanic flying is visioned by Lieutenant Noville as a thing of the future which must come in a short time. He does not believe in placing barges in the middle of the ocean, where planes could land and refuel. "They would be too small to be found," he explains. "We had a hard time to find Europe as large as it is. It would be impossible to try to locate a landing barge in the middle of the ocean."

Lieutenant Noville compares present flying to the automobile industry when it was in its infancy. "It was considered in those days a good trip if a man drove an automobile 30 or 50 miles. Now we don't think anything of driving from San Francisco to New York. Planes will be so improved that accidents will only occur due to carelessness. They will not be as frequent as automobile accidents."

Noville, like most men who are always facing danger, is a fatalist. He believes that when his time to die comes nothing can prevent it. When Byrd had ordered that they would have to land in the sea within two hours, Noville laid down on the floor and went to sleep. After the flight Commander Byrd asked him how he could go to sleep when he knew that in a short time he might be dead?

"I was as scared as anyone," Noville replied. "But if it was in the books that we were going to die we couldn't very well escape it. I was confident that we were going to come out alive and I wanted to rest in order that I would not be too tired to swim to shore."

The next great step that Byrd and Noville will take, will be the flight to the South Pole. However, it will not merely be an attempt to fly over the pole. Commander Byrd and his crew will remain in the Antaratic circle for a year and ahalf. They will cover some half million miles of hitherto unexplored country and will climax the trip by crossing the South Pole.

What will they do then? Noville smiles. "If we cross the South Pole I think our exploration tours will be over for awhile anyhow. To fly over the North Pole, across the Atlantic ocean and then over the South Pole should be enough for any man. You know, excess in anything you do will result in death."

Probably the most notable features of Commander Byrd, his crew and his flights are that they do not regard their exploits as races or contests. They did not fly over the North Pole and then cross the Atlantic merely to make history and to win glory and fame.

The purpose of the New York-to-Paris flight over an air trail already blazed by two planes primarily interested in speed and distance, was the study of atmospheric conditions over the ocean at different altitudes. The commander and his crew did not risk their lives to win a prize, but rather to make the lives of future aviators less hazardous. And, of course, at the end, what bigger prize could anyone work for than to save human life and to play an important part in the progress of aviation?

Closeup of Lt. Noville and Commander Byrd—taken at the little French town where they sought shelter and sleep

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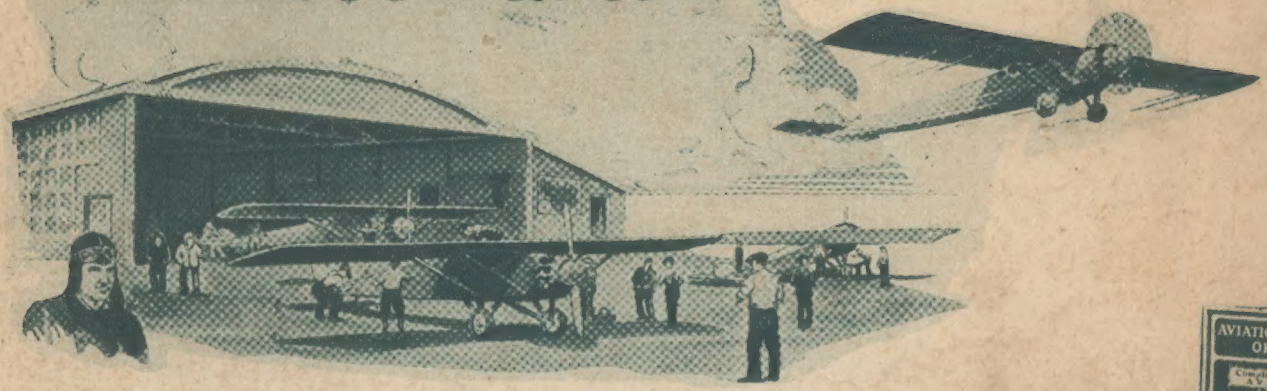

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